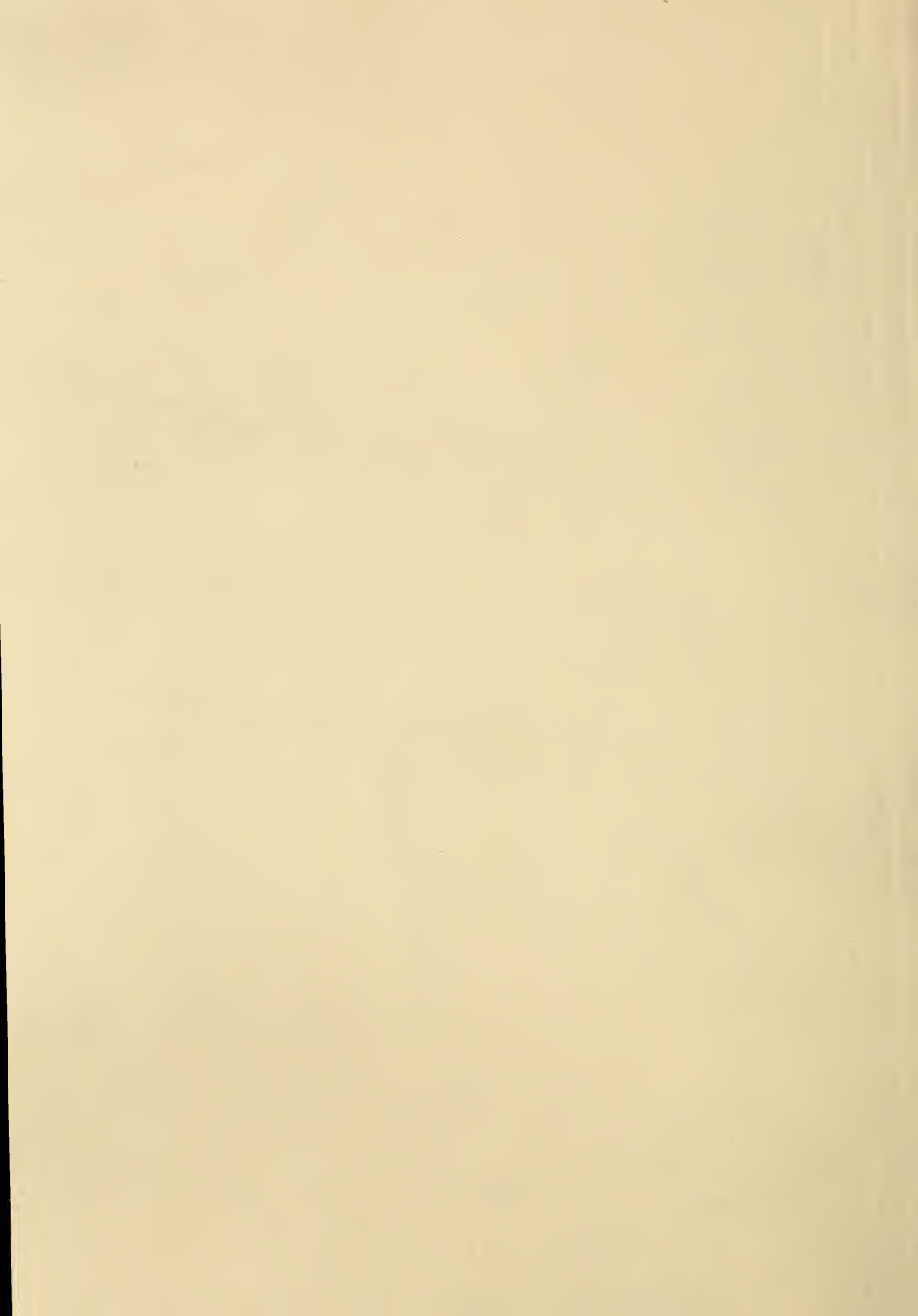


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



GLEANINGS

A JOURNAL DEVOTED
TO BEES
AND HONEY
AND HOME
INTERESTS.

ILLUSTRATED
SEMI-MONTHLY

Published by THEA. ROOT CO.
\$1.00 PER YEAR MEDINA, OHIO

Vol. XXIV.

JUNE 1, 1896.

No. II.

STRAY STRAWS

FROM DR. C. C. MILLER.

GRAPE POLLEN is light yellow.

PROSPECTS still brilliant for a crop of honey, May 18.

THE *Iowa Homestead* reports an utter failure with crimson clover sowed on 50 acres with timothy in August.

I DIDN'T KNOW alsike could grow so big. An acre on my place has lots of leaves measuring 2 inches by $1\frac{1}{2}$. Bees are working busily on it May 18.

MELT HONEY *slowly*. It takes time. It takes time at 212° , and very much more time at 150° . Melted at 150° it's all right, and 212° it's ruined. Give it half a day to melt a gallon.

NEVER HAD combs troubled with worms after they had stayed out over winter where they could freeze, and I never had a set of combs on which a colony of bees died in spring that failed to become wormy, if not cared for. [So here.—Ed.]

M. BORIS SPERER, in *L'Apiculteur*, says liberty of the press is a fine thing; but he thinks the insertion of many articles without being accompanied by "rectifying notes such as the footnotes of *GLEANINGS* and *Revue*," is not liberty but anarchy!

WE MAY CONCLUDE, I think, that in some cases bee-stings cure rheumatism, while in others they produce no effect. And I don't think it makes so much difference what kind of rheumatism as what kind of people. You know stings affect different people very differently.

"IT IS MORE COMMON," says James Heddon, apparently indorsed by Hutchinson, "to find imperfect honey in the comb than in the extracted form." Is that so? I feel pretty sure it's just the other way where I've had a chance to observe. [It depends upon what is meant by "imperfect honey." If they mean ripened, I should be inclined to agree with you.—Ed.]

VERY LEVEL was the head of the editor of *Review* when he said, "I am well satisfied that all this opposition to the amalgamation of the Union comes about from a lack of thoroughly understanding the matter." I don't remember seeing a single objection that was founded on fact and not fancy.

"THE LINES OF READING are very seldom diagonal to the edges." I read on p. 391, and that made me measure the page on which I was reading, only to find the margin $\frac{1}{2}$ inch wider at top than bottom. I don't like to read things that make me see faults in others that didn't trouble me before.

M. SIBILLE seriously proposes to domesticate the bumble-bee, so as to start out in the spring with a full colony instead of, as at present, with a single bee. A page and a half of *L'Apiculteur* is given to the matter; but I don't clearly learn just what advantage is expected from it if he should succeed.

I RECENT! I've always said I never saw bees work on strawberries; but this year they're at it, sure. [If you didn't claim any more than that you didn't see them, why recent? Now that you have seen them, you are to be commended for acknowledging it. But, say, do you mean that the bees worked on the blossoms or on the berries?—Ed.]

M. BERTRAND, editor *Revue Internationale*, thinks the novice in Europe will do well to serve his apprenticeship with native bees. He hints that the black bees of America are not as good as in Europe. [This is quite likely true. The British favor their blacks; but over in this country they are pretty much tabooed by up-to-date bee-keepers.—Ed.]

RATHER COOL of Hutchinson and Rambler to decide there will be no more important improvements in appliances for the production of honey. How do you know? [We must judge the future largely by the past. If there is nothing new in store for us, then the past has failed to bring us progress. What of the extractor, the movable frame, comb foundation, bee-smokers, bee-escapes, and a myriad of "little comforts"?

THE RILEY SUPER, p. 385, is not new. Mr. Funk sent me a super of that kind years ago. Nice when it works just right, but I think it doesn't continue to work all right. Shrinkage, you know. Nice to empty, but "Ed." is wrong in thinking it can be filled more easily than T super; also in thinking that sections would be brought nearer the brood-nest.

COLLECTING bad debts turns out to be another of your specialties, friend A. I., p. 397. I wish you'd try your hand on the only bee-keeper that ever tried to defraud me. I'll give you 120 per cent commission. I sent him a book on faith several years ago, and can't get a word of reply. He's not dead, for a communication signed by him appears in last GLEANINGS.

YOU MAY REMEMBER I had a patch of crimson clover sowed May, 1895. It bloomed last summer, but was still green when winter came. This spring it seemed about all gone; but now, May 16, there's quite a lot, perhaps a tenth of a stand, and bees are busy on the blossoms. And isn't it beautiful! [There is certainly no prettier sight on a farm than a field of this clover.—Ed.]

SKYLARK, *dear* Skylark, what does ail you? Have you and Doolittle both gone daft? Because I said in *A. B. J.*, p. 211, that a heavy shipment of California honey north made competition, you seem to understand that I object to the competition. Why, bless your heart, I never thought of objecting. You've as good a right in Chicago as I. Please correct right away before some one else jumps on me.

IT'S KIND of friend Porter to tell you the faults he finds in GLEANINGS; but, pray, what possible good can several pages of such criticism do us readers? Keep 'em to yourself, hereafter, and don't print any in the number you send me. [It is because I should like to know what others think about it. If our readers don't want such criticisms, let them speak out and I'll keep 'em to myself hereafter.—Ed.]

I WISH some one opposed to amalgamation would give a synopsis of the objections—not groundless objections, but those that have at least a little ground to rest on. Number 'em too, please, so's to save trouble of counting. [The majority are opposed to having an international organization. The quickest and most feasible way is to leave out of account the North American, and make the Union what you and the rest of us want it to be.—Ed.]

J. B. KELLEN, editor *Luxemburg Bienenzeitung*, discusses the proper place for the fly-hole, or entrance, to a hive. In this country it's almost universally at the bottom of the hive. In Germany it is at the bottom in some localities, in others at top, and in others at the middle. Herr Kellen thinks the middle point is best for the health of the bees. I'm quite inclined to favor a small hole at the middle in

addition to the bottom entrance. [Mr. Hoffman, of Hoffman-frame fame, a German, favors two entrances—one at the bottom and one part way up. When I visited him the bees used both entrances very freely.—Ed.]



AN "INFALLIBLE" WAY TO SELL HONEY.

I have read of many ways to sell honey in the home market, but none of them satisfies me. In the first place, we have no home market. There are fifty bee-keepers—yes, a hundred—for every city and town in California. Then many workmen who live on the outskirts of the towns keep a few colonies and sell the surplus to their neighbors. But, worst of all, many gentlemen keep a few bees at their country residences, to supply their families with honey. This last is an outrage, and should be stopped by the Union. What business has a gentleman with bees, anyhow? So we have been compelled to sell to dealers, and take what we could get. I took a ton of honey to San Diego, and, failing to get a fair offer from the dealers, I drove around to a fine large retail store and went in. I stood listlessly looking about, as if I wanted nothing and cared for nothing in all the world, only to be let alone. Soon a man stepped up to me.

"How do you do, sir? What can we do for you?"

"You can do nothing for me, but you can do something for yourself if you so wish. I have a fine article of comb honey for sale."

"Well, I just promised Thompson to look at a lot he has just above, near the corner."

I walked out and stood on the tow-path until he returned, nail-puller in hand.

When he opened the first case he started up and shouted, "Thompson! Come here!" to the owner of the other honey. "Look here, Thompson; *here is honey!*"

"Where do you make this honey?" asked Mr. Thompson.

I looked at him rather contemptuously, and asked, "Are you a bee-keeper? Do you *make* your honey? Bees gather mine from the flowers."

"Well, Thompson," laughed the storekeeper, "if you do, you have made a bad job of it this year. But the gentleman will gratify you by giving his name and where he, M——, gathered his honey."

"My name is Skylark—the great and renowned Skylark, known and beloved wherever the music of the bee breaks the morning silence or floats on the evening air. My name is Skylark, of GLEANINGS IN BEE CULTURE."

"Who is he?" asked Thompson.

"GLEANINGS IN BEE CULTURE! The greatest bee-periodical in the world, and you ask me who is *he*? and you a bee-keeper!"

Here there was a great roar of laughter at Mr. Thompson's expense; for by this time the sidewalk and half the street were blocked up with people.

"But how do you get such nice honey? I want to get white honey too."

"Well, Mr. Thompson, in your locality, and with your management, you will have to do two things—"

"That's it—that's what I want to know," said Thompson.

"In the first place, subscribe for GLEANINGS IN BEE CULTURE, \$1.00 per year, A. I. Root Co., Medina, Ohio. In the second place, scrub down each individual bee with soap and water, every morning, during the honey season.

At this, there was another wild roar of laughter and a clapping of hands. Unfortunately for me, however, at this moment a donkey, about a hundred yards down the street, gave three of the most unearthly brays that I ever heard in the donkey kingdom. An urchin in the crowd cried out, "There's another feller that want's to sell his honey."

This brought down the house—or, rather, the street. At this point the partner of the merchant mounted a box in the doorway, and shouted, "John! buy the whole load and get that lunatic away!"

"Well," said the storekeeper meekly, "will you let up if I take 25 cases at the price you name?"

"I will, with great pleasure; and I am only sorry I did not let up before that other donkey set up his opposition song. But, gentlemen, I am still the far-famed, undaunted, unterrified Skylark, of GLEANINGS IN BEE CULTURE, even if a ragged urchin did turn the laugh on me. This circus is now adjourned—to be renewed in some other part of the city."

I was not long in selling out. This is truly an infallible way of selling honey. But I don't want you fellows to be going round in the Eastern cities, representing yourselves to be the true, original, and unadulterated Skylark, of GLEANINGS IN BEE CULTURE. If you do, you will be detected, for some one will ask you to lend him a bale of undeveloped intellect, and you won't have it about your clothes."

THE CALIFORNIA HONEY EXCHANGE.

I see that Rambler has full charge of the California Honey Exchange. This is as it should be—a professional bee keeper at the head of it. When the Association announced that the secretary need not be a bee-keeper I thought they had made a great mistake. In fact, I did not see how any other than a professional could carry on the business. As I understand it, Mr. Youngken, the former sec-

retary, got tangled up with apicultural terms and names, and voluntarily resigned. The directors at once put J. H. Martin (Rambler) at the head of the Exchange, satisfied that he could jerk the kinks out of all the apicultural terms at the present time out of jail.

THE PACIFIC BEE JOURNAL.

The *Pacific Bee Journal* for April comes to us in a new Sunday dress. It is very much improved, inside and out. In the galaxy of distinguished writers are Skylark, Prof. Cook, and Rambler. What more do you want to carry any periodical on to success? If you fellows in the East want to know anything about bees you had better subscribe at once.

What has become of the *Rural Kansan*, née *The Kansas Bee-keeper*? Has it, too, given up the ghost? I have not seen anything of it for two months. It had entirely too many departments to be intelligently conducted by one person. Every one is not a Skylark—not by a long shot—equal to any occasion.



TWO STARTERS IN A SECTION.

HOW TO FASTEN FOUNDATION IN BROOD-FRAMES AND SECTIONS.

By B. Taylor.

Mr. B. Taylor:—I see by your article in GLEANINGS, page 102, that you use two pieces of foundation in sections. Will you please explain to me how you put it in, and what kind of section-holder you use? I have been using the T tins and full sheets in sections; but last year they came down and caused lots of trouble. I put foundation in with the foot-presser, so I should like to know how you work them. My sections are hard to clean. I also use the 4¼x4¼x1½, Root smooth section and L. hive. You will confer a great favor if you will please answer and make plain these few points.

Crestline, O.

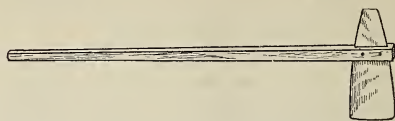
ABRAHAM KOONTZ.

Mr. Root:—The letter above given is a sample of many I have received lately. The question of putting the foundation both into sections and brood-frames is of far greater importance than is generally supposed, if we would have the brood-combs in the best condition, and the section honey of fine finish and best shipping condition. In my early experience in using sections I fastened the foundation with melted wax, using a camel-hair brush, and many other methods of doing the work. I had no trouble from foundation falling out; but the method was slow, and the job not as neat as I wished; so when the pressure machines were brought out I at once adopted them and used that way for many years, but never with entire satisfaction; for, with all my care, more or less foundation would come loose; and a few pieces be-

coming detached in a super would spoil the whole super of honey for fancy goods. As that was the only grade of honey I was ever satisfied with, I was greatly annoyed at any cause of failure. So I experimented for years to perfect a pressure machine that would fasten the starters (I had not used full sheets as yet), so they would never get loose, but I did not succeed; so when the heated-plate machines were mentioned I at once constructed one that worked like a charm. The question of putting either starters or full sheets in sections seemed for ever settled; but in this I was disappointed, especially in using full sheets of extra-thin foundation. I tried several of the highly recommended machines; but with all my care, the sheets of foundation would frequently come loose and spoil a super of fine honey. During the last five years of poor honey crops the evil has been greatly increased; for in each of those years we had many unused supers of prepared sections left over to be used another year; and the foundation fastened by the heated-plate machines was always in such condition, when we wanted to use them again, that the sections had to be taken from the supers and returned again. This caused more waste of time and material than I could afford; and three years ago I returned to the melted-wax plan, and I have no doubt this is a final settlement of the question of fastening foundation in sections. With me I can easily put two pieces in 2000 sections in 10 hours, and *every piece will stick for years*; and if a honey crop fails, the prepared supers of sections can be piled in a dry room and covered carefully from the light, and the sections will look new, and the foundation will be accepted by the bees as readily as new; at least, that is my experience.

The question is continually asked, "Does it pay to put two pieces of foundation in each section?" Yes, sir, it does. I would not use sections with only one piece, even if they were furnished free; for I want and will have my section honey built solid to the sections on all four sides, and can have them so by using sections eight to the foot, and a "Handy" slotted and cleated separator between each two sections, with two pieces of foundation fastened firmly, exactly in the center of each. The reason I want this is because such sections of white honey will look "just splendid," and I can ship them a thousand miles without a broken comb, if properly crated. I put a half-inch piece of rather heavy foundation in the bottom, and the top piece wide enough to come within $\frac{1}{2}$ inch of this, and all to be $\frac{1}{4}$ inch from the side of the sections. I know the order is generally given to fill the sections chuck full of foundation; but I tell you, after much experience, that foundation should not touch the sides of either brood-frames or sections until the bees have drawn it partially out; for if the foundation touches the

wood, the bees will immediately stick it fast, whether it is in the right or wrong place.



I send you herewith the simple tool I use to handle the melted wax. I have one of the Handy comb-levelers standing near by with the leveler removed, and a pan of melted beeswax put in its place, and the little battle-ax paddle in it. In one hand a block is held, on which a section is dropped; a piece of foundation is laid upon it, and is exactly in the middle of the section, and touching the wood. The hot paddle, with a little wax draining from it, is drawn quickly between the wood and foundation. A slight downward pressure of the fingers is exerted on the foundation, and is stuck neatly exactly in the right place, where it stays through thick and thin, until needed for final use. But I must caution you that the bottom piece of foundation should not be more than $\frac{1}{2}$ in. wide, and must be fastened firmly, or it will lop over when warm, and make bad work.

My brood-frames have a slot in the center of the bottom of the top-bar, $\frac{1}{8}$ inch deep, made with a saw $\frac{1}{8}$ thick, so the foundation will go in easily. I have a block that holds the foundation in the center. Slip the edge of the foundation in the slot; lift the paddle from the hot wax; drain the contents quickly along the saw-groove, and it is sealed fast in exactly the right place to stay, and will pull in two before it will come loose. This is a cheap and rapid way of fastening foundation in brood-frames, and I can not but wonder that it is not in universal use among bee-keepers.

Forestville, Minn.

[I have tried your "battle-ax;" and, while I could make it work, it doesn't begin to put in starters as rapidly and as well as the Daisy fastener or any other device I ever tried that employs the heated plate. It is an easy matter to put in 500 starters per hour with the Daisy; and if the lamp is turned up so that the plate is hot—real hot—a starter will never drop out. Your unfavorable experience with the heated-plate machines was possibly due to your plate not being hot enough.—Ed.]

B. TAYLOR'S HANDY BEE-HIVE.

SPACERS ON THE FRAMES OR IN THE HIVE—RABBETS; THICK TOP-BARS; SLACK OR TAUT WIRES; HORIZONTAL WIRING.

By Dr. C. C. Miller.

I don't know, friend Taylor, that you have said so in just so many words, but I feel pretty sure that you think I would do well to change from the hives I am using, to the Handy hive, that you prefer to all others. I don't think

with you, and I'll tell you why I don't believe it would be even advisable to put a colony of bees in it to try it. I have tried hives that I esteemed less than this, and I have had no little trouble therefrom; and it might not be a safe thing to tell every man that a hive of his own invention wasn't the very best thing in the world; but a man who is level-headed enough to invent a divisible-chamber hive and then reject it will stand almost any thing; so I'm sure you'll take it in good part for me to find all the fault I choose.

It's true, I'm changing from the hives I've been using for years, and while I'm about it I'd like to have the best; but one objection to your hive is, that the change would be somewhat violent. My old hives have frames 18x9, and I can change to 17 $\frac{1}{2}$ x9 $\frac{1}{2}$ with not such a great deal of trouble, for the two kinds of frames can be used together, after a fashion; but your frame is 13 $\frac{1}{4}$ x8 $\frac{1}{4}$ —no possibility of using your frames interchangeably. Of course, if there were enough to be gained by the change I ought to be willing to undergo that inconvenience.

The first thing that attracts my attention on looking at your hive is that it is square—14 $\frac{1}{4}$ x14 $\frac{1}{4}$ inside measure; and I must confess that there's something a little prepossessing in that appearance; but while you were about it why didn't you make the real brood-space square, instead of the inside of the hive? for the real brood-space must be measured inside the end-bars, and that makes it 14 $\frac{1}{4}$ x13 $\frac{1}{2}$. To make your brood-space square you should lengthen your frames 1 $\frac{1}{8}$ inches.

I don't believe I should like the method of spacing at fixed distances employed in your hive. Notches in the tin support maintain the fixed distance at the upper part, and in some respects this works well; but it entirely precludes the possibility of pushing a number of frames together along the rabbet as much as 2 inches. Much less do I like the spacing at the lower end. Staples driven into one end of the hive project so as to hold the lower ends apart, and this makes it so that a frame must be lifted some distance to move it, and you can't put a frame in its place without looking carefully to see that you get it in its right place. True, this spacing troubles at one end only, because the other end is free; but that, again, is objectionable; for I want my frames exactly spaced at all four corners. I find in the hive before me the space between end-bars at the free end varies from $\frac{1}{16}$ to $\frac{1}{8}$. That's a matter generally lost sight of—the proper spacing of the lower part of the frames—and the Hoffmans are at fault right there.

While putting the frames in the hive to find the bottom spacing, I thought I would test by the watch the rapidity of putting in frames. I found it took me a minute and a quarter to put the ten frames in place, and I feel pretty sure

I could do it in much less than one-fourth the time if the frames were allowed to slide freely. Of course, you would do it more rapidly with your hive, having had practice.

I see your top-bars are plump $\frac{1}{8}$ in thickness, and I shouldn't want them any less. I don't see the wisdom of our Medina friends in taking a $\frac{1}{8}$ stick and then whittling it down to a bead, leaving it only $\frac{1}{16}$ thick. Perhaps they don't know any better. You and I do. But what makes you cut that $\frac{1}{4}$ -inch slot out of your top-bars, so as to make a double top-bar? Is there any advantage in it? I like the $\frac{1}{8}$ saw-kerf to receive one edge of the foundation in the top-bar, but I prefer it $\frac{3}{16}$, so the foundation will more readily enter.

The horizontal wires in your brood-frames are drawn so tight that they sing like the upper string of a banjo. According to the Roots and Dadants, I think, they should be comparatively loose. From what little experience I've had with horizontal wiring I stand against them with you. Perhaps the editor will give us some good reason for his slackness in wiring. I don't mean for slackness in general.

Now, I don't know but I've given nearly as many favorable as unfavorable points; but the summing-up of the whole matter is that, wherein there is a difference between your hive and the more common form of the Langstroth, that difference isn't any special improvement, and I don't want the trouble of a change without a certainty of a material improvement. We all have our preferences, however, and I think we can remain on speaking terms, even if we can't agree on hives.

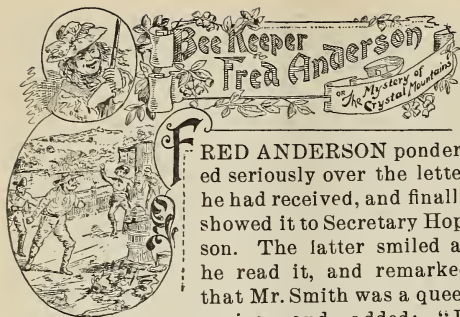
Marengo, Ill.

[I am with you, doctor, exactly, in believing that we do not want a notched rabbet to keep the frames at fixed distances. It will hold a frame for moving; but, as you say, it precludes lateral movement, so highly prized by those of us who have used such frames as the Hoffman.

In regard to the thickness of top-bars, we made them $\frac{1}{8}$ deep, but our customers just would not have them so; and in practice I found that $\frac{1}{16}$ was practically as good as the $\frac{1}{8}$. The latter may be a little more proof against burr-combs, but so "leetle" that it does not amount to any thing.

The $\frac{1}{4}$ -inch slot in the top-bar, if I am correct, is for the purpose of a passageway during winter. An enamel cloth or quilt can be laid squarely on the frames, and yet the bees pass from one comb to another without going under and around. A man by the name of Aimes was one of the first, I believe, to suggest this space in a top-bar. Even if such bars are only $\frac{1}{8}$ inch wide, they seem to go a long way toward preventing burr-combs. We tried quite a lot, and found them to do very well, but not so well as a top bar wider and at least $\frac{1}{8}$ inch deep.

If horizontal wires are drawn taut, the foundation, according to our experience, will buckle every time unless a very heavy article is used, and that is too expensive. On the other hand, if the wire is left a little slack, but taut enough to take out all the sag, there will be no buckling.—Ep.]



you should get acquainted with him, Mr. Anderson, you would find him a jolly companion. I dare say you wrote to him as you would to a man acquainted with all of the terms used in the practice of bee culture; and his knowledge of bees being limited he has answered according to his understanding, with a touch of his drollery. There are certainly bees on the Ghering ranch, and a large number. My advice is to follow the clew, as detectives say, and find out the true state of affairs."

Fred found that he could reach that portion of the Sacramento River by rail to Maxwell or Delevan, and then, by uncertain conveyances and much walking, might find the ranch. He could also, by taking more time, get up the river on one of the little steamers that ply at certain seasons of the year between Sacramento and Red Bluffs.

Accordingly, the next afternoon, after receiving the letter, Fred was on the steamer Valetta, booked for Ghering's Landing. In former years the Sacramento had been navigable for quite large steamers far above the capital city; but now, owing to the continued wash of debris from hydraulic mining up the many tributary streams, the channel would barely allow a boat drawing three feet of water to ascend as far as Red Bluffs; and even the large steamers find troublesome sandbars far below Sacramento.

The little Valetta, loaded with merchandise for the up-river towns, puffed its way carefully over sand-bars, around headlands, through tule bottoms, stopping now and then at landings as occasion required; and about noon, on the second day, she slowed up to the wharf before the lively town of Colusa.

Here a party of six miners came on board

with their mining and camping paraphernalia, bound for the reported new diggings in Butte County. Their advent made quite a commotion on the Valetta. They had been "blowing in" their earnings in the various saloons of Colusa, and had evidently imbibed a noisy brand of spirits; and their most precious parcel of baggage was a gallon demijohn of whisky, or a compound that went by that name.

The Valetta had not proceeded far in the continuation of its trip when the demijohn was passed to all hands on the boat. Now, Fred Anderson was a true-blue temperance youth; and when the demijohn came to him he merely passed it along to the next man. The fact that he did not drink was not apparently noticed; and during the next hour several drinks were taken, and he passed the liquor as at first, or slipped to one side and avoided it. As a result of the several imbibings all hands on board except Fred began to be very jubilant. The red and blue shirted miners formed a circle on the forward deck, and began to shout, "On this deck we'll take our stand, we all belong to Gideon's band; here's my heart and here's my hand, we all belong to Gideon's band," etc. Their efforts at a shuffle, and a breakdown, were so ludicrous that Fred laughed heartily. This attracted the attention of a blear-eyed, vicious-appearing fellow, and, shuffling toward



"HOE 'ER DOWN, TENDERFOOT!"

Fred, he remarked, somewhat incoherently, "See—here—young man: may be ye—think ye—kin—dance better'n we kin." Then addressing his companions, he said: "Say, boys, le's make the milksop tenderfoot dance."

To this they all assented vociferously.

"That's a bully idea, Sam," said one. "Hurrah! tenderfoot dance is next on the program,"

said another; and another shouted, "Good time to initiate the tenderfoot into Gideon's Band." Then they all shouted, "Here's my heart, and here's my hand; we all b'long to Gideon's Band."

"Come, tenderfoot, hustle round," said the leader.

Now, Fred had no objection to dancing; in fact, he had often taken part in private theatricals, and could execute a jig or a clog-dance fairly well; and, to avoid further trouble, he would indulge their whim and show them that the tenderfoot could dance. So, taking off his coat, he stepped into the open space on deck; and, to get into time, as it were, he spatted his hands on his knees, and then broke into a genuine plantation song, accompanied with a jig. The jig was also accompanied with shouts

ray, now; pass round the crystal jug; let's all have a drink."

The demijohn soon came to Fred, and all eyes were upon him; but he stepped to one side and tried to expostulate and reason with the men; but whisky was in, and the human being and reason had stepped out, leaving nothing but the brute. Fred tried to get off with another jig; he knew that he was somewhere near his destination; and if he could divert them he might soon be landed and rid of them; but now, finding that he was really a temperance youth, they seemed the more determined to force him to drink.

The captain of the boat seemed to think that the drinking of a little whisky was a small matter, and said, "Why, young fellow, what's a drop of whisky? see here. I'll set ye an exam-

ple;" and, amid the approving shouts of the crowd, he took the demijohn and a liberal drink from it.

While the captain was drinking, Fred felt that he was in an embarrassing situation. He had passed through many temptations that, for a time, had threatened to dethrone his temperance principles; but they had always been in social gatherings. The cup had been offered by so-called friends, and even by fair hands; but now the situation was different and desperate; for if he

did not comply with the demands of the miners he plainly saw that they would proceed to personal violence. His very soul rebelled against being bullied into drinking the vile stuff; and as the entire situation flashed through his mind he decided upon a desperate remedy. As the leader of the gang determinedly approached him with the demijohn and an oath, Fred to all appearances, seemed to acquiesce to their demands.

"All right, gentlemen." he was upon the point of saying; but as that would be a ridiculous misnomer to the crowd before him, he had in mind to say men; but there was not a manly quality in the crowd. To call them brutes, he



"HOW DO YOU DO, MR. PICKEREL?"

from the crowd, "Hoe 'er down, tenderfoot! get there. Gideon! We all b'long to Gideon's Band."

When Fred stepped out of the circle there were several approving smiles, nods, and winks, and all subsided for a moment into silence. Fred hoped this would satisfy them, and that now he would be let alone. But the leader of the gang had no notion of giving his victim rest, and shouted, "Hurray fur the tenderfoot, boys! he made a nimble dance, and beat us; but, boys, d'ye know he hasn't drank a drop of our whisky? he's a crank temperance tenderfoot. We've got to fill him up with whisky, and then we'll see whose dance is best. Hur-

knew, would anger them; but to use the term would be an insult to the brute-creation; so he merely said, in a sarcastic tone, "Miners, why should a little whisky stand between our friendship?" and, taking the demijohn, he held it a moment in hand, while the crowd jeeringly shouted, "Hooray for Gid!" "Hooray for the tenderfoot!" Another sang, "Brave boys were they; they went at their country's call."

"Now, miners," said Fred, "when you see me swallow this whisky you may know that I have given up my temperance principles, but at the same time, I wish to use it in a way that will be a benefit to all;" and, raising the demijohn, he said, "Here's to the good old temperance cause, and to the confusion of drunkards."

With the latter words he hurled the demijohn toward an iron capstan, not ten feet away, where it was dashed into a thousand fragments, and the liquor went through the scuppers of the boat with a slush, and mingled with the waters of the river.

With the hurling of the demijohn, Fred sprang quickly upon the taffrail and made a vigorous leap. A moment later there was a splash, and a figure struggling in the water. He had calculated his leap well. He noted that the boat would swing in shore at this place; and from where he went into the water it was only a few yards to shoal water.

Fred's sudden and unexpected movement disconcerted the drunken crowd; and before they could collect their befuzzled senses the boat had passed rapidly along, and the stern swung in on the river bend. The big rear paddle-wheel came so near to Fred that the water was dashed violently against him, and he was soon left in the rear of the boat.

The imprecations of the miners were loud, and their reckless anger vented itself in a few harmless shots from revolvers. They immediately realized that the temperance youth had worsted them. He had stood firmly by his temperance principles, and had put the contents of the demijohn where they would do no more harm.

Fred was a good swimmer, and even the impediments of clothing would not have troubled him; but the violent dash of water nearly stunned him, and his motions were somewhat wild while striving to keep his head above water. The steamer soon rounded the next bend, and was out of sight, apparently not caring whether their late passenger found the shore or the bottom of the river.

While Fred was manfully striving to gain the few feet now separating him from the shore, a young woman came running along the river-bank. In her hand she carried a long and slender fish-pole. When she had gained a vantage-point she thrust the pole toward Fred. He quickly grasped it; and, though the aid was so slight, a gentle pull enabled the young

woman to land the largest specimen of river product she had ever angled for.

When Fred gained solid ground he was so far exhausted that he could not express even thanks to his deliverer; but from the moment when he first recognized her object he had an idea that an angel was rescuing him; for to his eyes he never saw a young lady so graceful, beautiful, and fair; and the fish-pole that had been thrust to his aid was a veritable cupid's dart, and had left a wound that would never heal.

When Fred secured a restful position he noted that his deliverer had kept up a running talk to herself in an undertone; and now she laughed (wildly he thought), and said, "How do you do, Mr. Pickerel? ha, ha! Pickerel for dinner. Pickerel from my sister the mermaid." Then she sang:

The night is stormy and dark,
My lover is on the sea;
Let me to the night winds hark,
And hear what they say to me.

Fred thought it the loveliest voice he had ever heard; and if he was indeed her lover, how appropriate! But again she shouted, "Well, Mr. Pickerel, do you feel like getting along to the palace? There, don't say any thing, Mr. Pickerel. You'll break the charm, and I'll fly away. In my palace we'll have dinner soon—mud-hen, turtle soup, or periwinkles—ha, ha! mud-hen!" she shouted. Then coming close to him she tried to be menacing, and said, "We'll eat Mr. Pickerel. See my teeth;" and a grimace followed that gave Fred a chill; but at the same time he thought the teeth the most beautiful he had ever seen. Her mood changed again suddenly, and she sang about her lover on the sea. Then seeing a reflection of her own lovely features in the water she talked to it as though it were a veritable fairy.

A painful thought evidently came to Fred; a troubled expression contracted the muscles of his face; he passed his hand across his forehead, and exclaimed, in a half-audible tone, "Great Heavens! she's crazy."

"Don't talk," she said, putting her shapely hand up deprecatingly; "you'd scare away my fairy sister."

There was now a sound of footsteps beyond the bushes, and a voice shouted, "Alfaretta!"

Fred's angel sprang up the river-bank as nimbly as a fairy, and answered the call with a "Hurrah, papa! I've caught Mr. Pickerel."

"Pickerel!" said the voice; and a middle-aged man of pleasing and professional appearance stepped through the bushes."

"Papa, here's Mr. Pickerel. I caught him; let's fry him for dinner. See my teeth, Mr. Pickerel;" and Fred saw that beautiful array of teeth again, and the accompanying grimace.

The man smiled sadly; and, seeing the plight Fred was in, he became kindly solicitous.

□ Fred had recovered now so that he could arise and converse; and, giving his name by way of introduction, he briefly narrated the events of the past few hours, and the cause of his present saturated condition, and concluded with the remark that, but for the interposition of the young lady, he might have failed to reach the shore.

"Sure, sure," said the gentleman, several times during the rehearsal. At its conclusion he said, "My name is Clarence Buell. And now, Mr. Anderson, your clothing is in such a soaking condition you must come to the house with me and we will fix you out in dry clothing."

While walking along the river-bank, Mr. Buell expressed his admiration for the firm stand Fred had made against the drunken miners; "and, though you received a ducking, it is much better than to surrender your manhood. My sympathies are with any one who suffers through the evils of intemperance. You have observed the condition of my daughter. Her illness was caused by the drunkenness of a pilot on a steam-tug in San Pablo Bay. We lived in Oakland. Alfaretta was attending the University; but one day during vacation herself and a few gentleman and lady students were sailing on the bay when one of those little propellers came in collision with their boat and capsized it. Other boats were near, and all were rescued; but as they were about to rescue Alfaretta a floating spar struck her head and rendered her insensible. She was taken from the water, brought home, and remained in a stupor for many days. When she did regain consciousness her intellect seemed to be shattered, and has remained so until the present. We moved out here a few months ago, hoping the quietness and the freedom here enjoyed would result in an improvement; but the only change we can see is the better and more vigorous bodily health."

When they approached the house Mr. Buell led Fred into a bath-room, supplying him with necessary garments from his wardrobe until his own could be dried. As Mr. Buell was of aldermanic proportions, and Fred was slim, he presented a generally mussed-up appearance when presented to Mrs. Buell. The misfit caused smiles all around, and smiles and good cheer were what the house most needed: for the condition of the daughter rendered the home as sad as though there were crape on the door.

EGGS, AND THEIR POSITION IN THE CELL.

SOME OBSERVATIONS FROM HERR VOGEL AND OTHERS.

By Friedmann Greiner.

Mr. Editor:—My postal, addressed to Dr. Miller, although intended as a personal reply, has found its way into the columns of GLEANINGS

(page 347). I am somewhat sorry that I wrote under the impulse of the moment; but I am glad the matter has by this means been brought out more prominently. I was not aware that the egg-transfer theory was generally accepted as a fact. Daniel Fleisher's observations are certainly very singular. Such a wholesale transferring stands without a parallel in all bee history. It is hard to see why his bees should have done so, or, in fact, what necessity there is for bees *ever* doing so. If bees possess this faculty, why do they not make use of it oftener? I have time and again given brood-combs, with eggs or brood in all stages, to queenless and broodless colonies; but I must confess that moving eggs or larvae has, at the least, escaped my observation. Of course, a thousand testimonies in the negative lose all their power against a single one in the affirmative, and I am obliged to give up—but still I doubt.

In what Dr. Miller quotes from Cowan I fail to see wherein Cowan tries to convey the idea that a bee's egg is changed in position every 24 hours, perhaps as a hen might root over her eggs. If Cowan made his observations at intervals of 24 hours, then quite naturally he would state that he found the eggs at such and such positions at these times. Had he made his observations at shorter or longer intervals, his report might have been different; for, as I look at the matter, the change is a gradual one, and one without the direct interference of the bees. Speaking of this process, Vogel says, in *Bienenzeitung* of 1895, page 9, in substance:

"The egg, when just laid, stands at nearly right angles to the cell-bottom, with the lower pole cemented to this. It is thus held so it may be evenly subjected to the influence of the surrounding warmth. I have taken the pains to cut out eggs with some adhering wax (working with a very fine knife one sometimes succeeds without spoiling the egg). Such removed eggs, when again placed in other cells, were promptly removed; when placed in an incubator, never hatched, although the embryo was fully developed. Other eggs, when placed in the same incubator, but left as deposited by the queen, hatched out every time.

"The egg, after thirty hours of incubation, has declined toward the cell-bottom by 45 degrees. The nucleus, around which the formation of the embryo begins, is located nearer the upper pole of the egg, making this end the heavier, the power of gravitation causing the decline. After an elapse of another 30 hours the egg lies flat on the cell-bottom, but is still securely held by the cement until the embryo bursts the shell, when the workers remove all fragments."

Naples, N. Y., May 11.

[I have little to add in addition to what I have already said on page 347; but I wish to

call attention to the fact that the observations made by Herr Vogel do not necessarily contradict the position taken by myself and others, that bees do transfer eggs from one comb to another under certain conditions and stress of circumstances.

At the time of the sending of the article friend Greiner sent along two pages from the *Bienenzeitung*. Certain illustrations appearing therein I have had re-engraved for our own columns; and the matter directly pertaining to them is translated by our Mr. W. P. Root:]

Bees work in this respect exactly as do birds, which remove from their nests the fragments of their own eggshells. I took the pains to remove from the cells some eggs with a portion of adhering wax. Among other things for doing this, one may use a small fine penknife, without danger of losing the contents of the egg. I put such an egg into a cell and then put the surrounding foundation into a colony of bees; but the eggs were immediately pulled out of the cell and dropped down into the hive. I then put such an egg into an apparatus for the purpose of having it hatched artificially; but never did such an egg develop into a nymph. But, on the other hand, when the queen deposited the egg in a similar place, the larva was uniformly developed. Hence it is necessary, for the liberation of the embryo, that the egg be fastened at the lower end; for I found the embryo in such eggs, after some days, completely developed, but dead. These facts speak unmistakably against any transportation of eggs, by bees, from cell to cell. I simply bring this matter up because at present in foreign countries, long after the matter has been settled in Germany, the hue and cry has been taken up that bees really do, under some circumstances, transport eggs or larvæ from cell to cell or from frame to frame. To err is human. All reports as to the carrying of eggs and larvæ, emanating from foreign countries, are so incomplete, and hobble around so much on crutches, that their importance is of no consideration. . . .

with its ray-like crown; at *o*, the netlike over-skin, and at *b* the adhesive substance.



Fig. 5.

Section of egg, showing its interior.

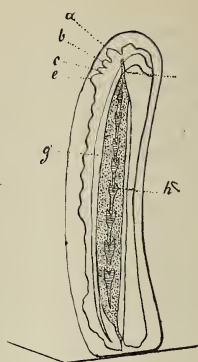


Fig. 6.

Egg on the third day, showing the embryo.

At Fig. 5 (a sectional view) we see the interior of the egg; *a* is the exterior leather skin; *b* the envelop of the yolk; *c* the protoplasm; *d* the so-called kernel, with *e* at the germinating point; *f* are minute granules surrounding the germ-vesicle; *g* is the micropyle through which passes a sperm-thread, *h*, into the egg, and *i* is the spermiduct.

Fig. 6 shows us the interior of an egg after a brooding of three days after laying. We see in the egg the already developed embryo, which is ready at any moment to burst and come forth as a larva. We see, besides, the rudimentary jaws *a*; the feelers at *b*; the upper lip at *c*; the lower lip at *e*; the antennæ at *f*; the stomach at *g*; and the nervous system of the embryo as a ventral mark at *h*, etc.

[I do not remember that in any work in English this matter of the position of eggs just at the time of being laid, and after being laid, has been touched upon; but I am quite inclined to accept the statements made. However, I do not propose to stop at this point; so I will go out into the apiary and take a look at some combs, and see what *our* bees have to say on the matter.

An hour later.—As I went out into the apiary I began wondering within myself why I had not noticed the phenomenon above mentioned. "Why, if true," I thought, "this will enable us to pick out a frame of freshly laid eggs, or a frame containing eggs just ready to hatch, just right for queen-rearing purposes. Our apiary is now rearing queens full blast."

"Mr. Spafford," said I, as I approached our apiarist, "show me a colony from which a queen was sold out yesterday—that is, a colony that has been queenless for 24 hours."

As he opened the hive I showed him the drawings above, and asked him if he had made similar observations. He had not noticed any particular inclination of the eggs at different ages. An examination of the frames showed that the eggs were inclining slightly, some standing parallel to the sides of the cells; but there was nothing very marked about the angle. We next turned to a hive from which the queen had been sold two days before. Here,

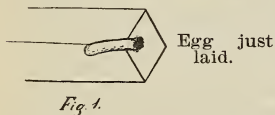


Fig. 1.

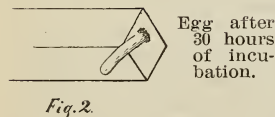


Fig. 2.

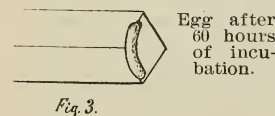
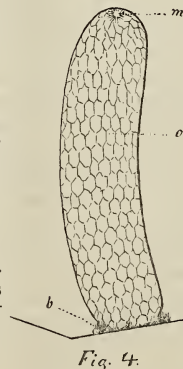


Fig. 3.



Appearance of a fresh-laid egg.

In Fig. 4 we have the exterior view of a bee's egg, greatly magnified. At *m* is the micropyle

at least, I expected to find some eggs lying on their sides; but I could see no particular difference between eggs in this hive and the one previously examined. In some of the cells the eggs were straight out, and in others they were slightly inclined; but in none do I remember of seeing where the eggs were lying in the bottom of the cell, although I found hundreds of larvæ just hatched, seeming to have hardly broken the envelope or shell, as we might call it, off from around them. In the course of the afternoon Mr. Spafford examined other colonies, and he could not discover that the length of time during which the eggs had been laid had any particular effect upon the angle as regards the point of attachment.

Now, either our bees do very differently in this country, or else our friend Vogel, of the *Bienenzeitung*, has been careless in his observation. In the language of Herr Vogel himself, "To err is human." His statements, it seems to me, are the ones that "hobble around on crutches."

There are hundreds of queen-breeders who will be prepared to substantiate or disprove the point; and I shall be glad to hear briefly from quite a number. If some Yankee had put forth such a proposition I do not know but I should be inclined to drop it right here as all a hoax; but those German bee-keepers have the reputation of being very careful observers; and one needs to be a little careful before he disputes their statements upon his own *ipse dixit*. —Ed.]

A HANDY HIVE-CARRIER.

By N. Young.

Mr. Root:—I have of late been rigging up a contrivance or device which I think can be used in many apiaries to good advantage in moving light loads about the apiary; and as the cost of it is so trifling I think almost anyone can afford to give it a trial. Get a large-sized fence wire, say one or two hundred feet long. Tie one end to the corner of the honey-house or bee-cellar; perhaps a good solid post near by, well braced, would be better. Then tie the other end to something solid out in the bee-yard, or wherever you think you want it; then stretch it tight with a wire-stretcher. I make a car like that shown in the cut. Get a drygoods box, or make one large enough to receive a bee-hive. Knock off the sides, then take two pieces, 2x4, about 20 inches long. Nail them edgewise to the end of the box; then get two roller hinges and fasten on to each end of the box or car, and then hang it on the wire, and you have the outfit.

Ackley, Iowa.

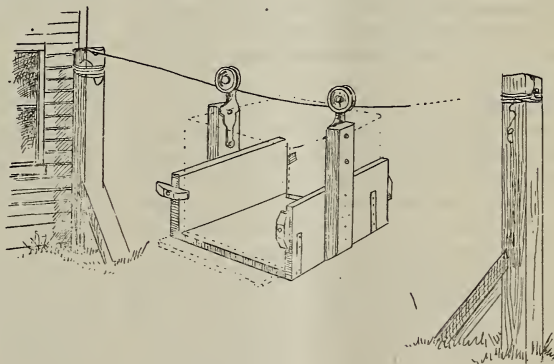
[This I regard as a very simple and practical device, easy to make, and perfectly free from the jolt of wheel vehicles that run on the ground. It is very desirable, in carrying colonies of bees to and from the cellar, to do it in

such a way that they shall not be jolted or disturbed; and this hive-carrier will do the business perfectly. Our engraver has failed to show the scantling set edgewise to the tray, as specified in the description. The object of this is to permit of the use of the ordinary door-pulleys, such as are used for sliding barn-doors. A few cents' worth of lumber and two door-pulleys, and 100 feet or so of stout wire, is all that is required. It is not necessary, as shown in the engraving, to have a post at the honey-house, because the latter is supposed to be rigid enough for that; and in place of the window shown, there should be a doorway.

If the taut wire runs centrally through the apiary it will be necessary to carry colonies only to the carrier; but if one wishes to carry out something a little more elaborately, he can have branch wires connecting honey-house in such a way as to intercept the whole apiary. Of course, the wire should be set up high enough to be above the head, but the carrier itself can hang down low enough so as to be the right height for loading and unloading.

Thousands of tons of coal are carried by systems similar to this. A cable runs into the mouth of a mine on a side hill, and the coal or ore is loaded on. A smaller cable hitched to the carrier draws it out and conveys it to a point directly over a railway track or river, where the load is dumped on to a car or into the hold of a boat, as the case may be.

In the device above, an attendant simply pushes the machine from one point to another. If most of the loads go toward the honey-house, the far end of the wire can be raised up a little so as to make it down grade. But I imagine some bee-keepers will not be content with this, but will arrange it so that the wire can be raised at either end—something as in done in large drygoods stores where they send the cash-boxes or bundle-carriers from one point to another.—Ed.]



YOUNG'S HIVE-CARRIER.

"SWEEP SWARMS."

ANOTHER METHOD OF PREVENTING SWARMING: SHALLOW EXTRACTING-SUPERS; HOW TO SECURE MORE HONEY; HOW TO KEEP DOWN INCREASE.

By T. H. Kloter.

I have practiced the Elwood dequeening method from the time Mr. Elwood first published it, in the winter of 1838, I think, up to 1894. So far as prevention of swarming, and

producing of honey by colonies that are part of the time queenless, is concerned, I have had as good success as could be expected in seasons that were in the main poor. The finding of queens, and infallible destruction of queen-cells in the queenless colonies, have never offered any serious difficulties to me, and will be minutely described in the future. The most serious part of the method consisted in the re-introduction of the queens. How I lost hundreds of valuable queens, and how I finally overcame difficulties, I will also defer to some future article. I will give to-day a method of non-swarming, or, rather, forced swarming, which I practiced last summer, and which gave me better satisfaction than the Elwood method.

I have a large number of half-depth supers, designed for taking extracted honey, containing 10 frames 6 inches deep and 18 inches long. These have close-fitting end-bars, and stand on tin strips after the manner of the frames in Heddon's new hive. It is, however, not essential whether the frames are in that shape or not. A hanging frame will do as well. Indeed, the half-depth extracting supers you offer in your catalog may do very well, though I think they are shallower than my frames. Hanging frames should have the Hoffman end-bars, so that no time may be lost in spacing them.

Of the 10 frames, I provided 8 with half-inch foundation starters, and the two outside frames I converted into dummies by nailing thin wood over the sides. This I did because I considered 8 frames of 6-inch depth ample comb space for the purpose. By providing cheap loose bottom-boards and covers, these supers were converted into shallow brood-chambers to hive the forced swarms in.

When the proper time came, and the brood-chambers of my colonies were overrunning full of bees, I proceeded to make what in German bee-parlance is called "sweep-swarms" (*Fegschwärme*). My method of doing this is thus: I lift the colony from its stand and place it a little to one side. One of the shallow swarming-hives is placed on the old stand, and a good-sized piece of muslin spread in front of it. The old colony is then opened, frame by frame taken out, and the bees brushed with Cogshall bee-brushes on to the cloth. Shaking off at this time would not do, as there was too much honey in the combs that would shake out and drench the bees. If there are many colonies swept, it will be well to have two sweepers—one for each side of the comb. My 9-year-old boy helped me last year. If there is not much thin honey in the combs, most of the bees may be shaken off. We never looked for the queen, as we swept every bee from the combs, and then shook and brushed all the rest out of the hive. We never missed a queen. There should be an extra brood-chamber or box on hand to put the cleaned combs in, as it will not do to put them

back into the same hive before all the combs are swept and the rest of the bees shaken out. We did not leave any bees to nurse the brood, for, even if some of the youngest larvæ should perish, the loss is not serious, as they would not develop in time to help gather that crop any way, and the sealed brood does not suffer. Of course, if there is danger of the weather turning cold this would not do; but when I did this last year, during the end of May and the first days of June, the heat ranged between 95 and 100 degrees in the shade.

After all the bees were swept out, the entrance of the old colony was turned backward, and the hive set a little backward and to one side of the swarm, to be gradually turned around again, a little every day, until side by side with the swarm. The bees entered the swarming-hive just like a swarm—were shaded with shade-boards, and in from 24 to 36 hours would have small pieces of comb started in some of the frames, and, generally, eggs in the cells. As quick as this was noted, on went the queen-excluding honey-board, and a case of sections filled with foundation, and one or more bait-combs were put on. The bees, having but little comb in the hive, would go into the sections with a vim, and put nearly all the honey they made into the sections. Where the old colony had been working in the sections before the operation was performed, we shook the bees out of the section-case and returned the sections to the mother colony until the swarm had started its combs and the queens had begun to lay, when they would be placed on the swarm. Where no queen-excluding honey-boards are used this is the only way to proceed, as the queen would surely occupy the sections if the cases were put on at the time of hiving. In a number of cases, however, I placed the sections, bees and all, directly above a queen-excluding honey-board on to shallow swarming-hive before the bees were swept off, and all went well. In no case was there any swarming-out.

These operations were performed in my out-yard of 54 colonies, located in the country, 4 miles from my home yard. I was somewhat hampered by several colonies swarming while I was busy at home, not thinking that any were ready to swarm. As the queens were all clipped, some of the swarms went into other hives, making immense colonies. To those I gave two of the shallow hives when I swept them off. As soon as they had settled down to business, and were working in the sections, I took away one of the hives and confined them to one, giving them plenty of section room. These double swarms made, of course, about as much again honey as the others.

After the close of the white-honey season I removed the sections and confined the swarms for a while to the shallow hive alone; and, al-

though this rather crowded them, they stayed all right. The mother colonies had in the meantime all raised young queens; and on the 10th of July I proceeded to unite the swarms and mother colonies, as I did not desire any increase, and was in hopes that these rousing double colonies would make a good showing in the fall. This had been my plan from the very first.

Now, this uniting is a very interesting part of the program. In the beginning I had some misgivings as to how the queens would be treated. I therefore began cautiously, and with a few hives at a time. I would remove the old queen from the swarm, then hunt up the young one in the old brood-chamber, and put her under a small wire-cloth cage, leaving it to the bees to release her by gnawing away the comb from under the cage. I would then lift the swarm from the stand, place the mother colony on it, put a queen-excluding honey-board on the old brood-chamber, and the now queenless swarm on top. I soon saw, however, that the hunting and caging of queens took too much time, and started robbing, as no honey was coming in at the time. Besides this, it would necessitate another opening of the brood-chamber later on to remove the cages. So, after treating about 8 hives in this way I concluded to take what I considered a rather desperate chance. I would remove the old queen out of the swarm, then lift the swarming-hive from the stand, place the old brood-chamber on it, without caging the queen or even touching a comb, and at once put the swarm on top over a queen-excluder.

After treating a number of colonies this way, I waited a few days, and then examined them to see how the queens had been received. To my joy I found every queen in the hives, treated in the latter way, perfectly at home. There had been no quarreling whatever among the workers. Of the seven or eight queens that I had caged, however, there were several lost. The hunting-up and caging of the queens had evidently stirred up the bees too much, so that they killed the queens in a number of cases after releasing them from the cage. Thereafter I united all that remained, without caging the queens, and did not lose one out of all treated in that way. Moreover, in three hives I permitted the bees to retain their queens in both the old brood-chamber and swarming-hive on top, with only the queen-excluder between them, and all the bees using only the one entrance; and they stayed that way for several months. During that time they were hauled from the out-yard to the home yard, and I opened the hives a number of times and hunted up the queens. Late in the fall I remove one of the queens from each hive. It was, indeed, a pleasant surprise to me to see how easily those bees were united. In one case the mother

colony had lost the queen they had reared; and as I thought they had a queen, I left them alone until they had developed laying workers, and had a lot of drone brood. I simply put the swarming-hive, containing the old queen, on top without queen-excluder, and the queen was received, and the laying workers disappeared at once.

As the brood hatched from the swarming-hives, I at first intended to shake out the bees, cut out the combs to make wax of them, and prepare the frames and shallow hives to repeat the brushing-off process again at the beginning of the fall honey-flow. The prospect, after the summer drouth, was so unpromising, however, that I did this only so as to try it on two colonies. Both filled the shallow hives with comb, in spite of the poor honey-flow, but did very little in the sections. This could not be expected. The old hives raised queens again, but did not gather enough for winter. With a little feeding, however, they wintered finely. The swarm was, of course, doubled back on to the old brood-chamber late in the fall, after having its queen removed; and after all the brood was hatched, the combs were removed and again cut out to render into wax. Of these two colonies, one is at present among the best in my yard, and the other a good average. This sweeping the bees twice in a season, and letting them build new combs which are designed for the rendering-pot, is a distinctive feature of the plan of management I shall hereafter pursue. It will give fine surplus honey, if there is any to be had, and a large crop of wax in connection with the production of comb honey. It does away with swarming, and increase of colonies is completely optional with the apiarist. I will yet state, that, for best success, each colony ought to have allotted to it two of those shallow swarming-hives—one to be used in spring, the other in fall. You may get along with one for both seasons, but it will crowd work too much.

□ Terre Haute, Ind.

[If I understand you correctly, you shake, or, rather, "sweep," all of the bees out of the parent colony in front of the new hive, and make them crawl in as they do in the case of a swarm; that this crawling-in satisfies their craving, somewhat, if they have any, for swarming, and that, as a consequence, they do not swarm.]

I notice you say you shake all of the bees out of the hive, and then turn the parent hive around with its entrance in the opposite direction. Of course, this sacrifices the young unsealed brood; but in the mean time I should imagine that robbers might make trouble, or something might happen to the brood, until such a time as the bees already hatched out would be old enough to stand guard at the entrances. As these sweep swarms are made during a flow of honey, there probably would not be any very great trouble from robbers; but the loss of considerable young brood would amount to something. However, if you thereby keep down swarming, and at the same time control increase, perhaps the sacrifice of a little unsealed brood would be a small matter.—[Ed.]

THE NEW JARDINE BEE-ESCAPE.

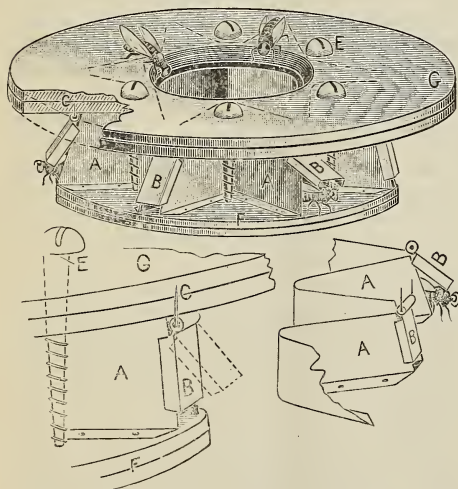
A BEE-ESCAPE WITH SIX OPENINGS.

By James Pearson.

During the past half-dozen years or more, all of our "up to date" bee-keepers have used some kind of bee-escape. All readers of *GLEANINGS* surely know the principle involved in all makes of escapes; viz., that of letting bees out through an opening which will not allow them to return. In this way the bees are coaxed, out of the super-cases down into the brood-frames, through the doors or openings of the escape, by the simple law of nature which has been taught them by the divine Hand, to "keep near the leader" (in this case the queen).

Among the older and standard makes is the Porter escape. We do not wish to run down that or any other make for a minute, but, rather, bow in thanks and praise to the good work which they have done, and speak from the ever-clattering tongue of progress, "Well done, thou good and faithful servant."

In all lines of invention we find the first now taking the back seat, while the new inventors have founded their thoughts upon some solid principle of a by-gone inventor, and thus come before the public with new and superior devices of all sorts. As it is thus true in almost all lines of inventions, so is it very true in the line of bee-escapes. We give here a cut of the new "Jardine" escape.



At the first glance the experienced bee-keeper will see the fundamental principle of its superiority over the Porter; viz., do the same work quicker. The Porter and other standard makes are provided with but one opening, while this escape has six. Any child in primary arithmetic can understand very clearly that a larger number of bees can pass out through six doors much quicker than through one door of the same size. We put the escape in the center of

a board bound with cleats, which holds the super above the brood-frames, about the same as is used with other escapes. Supposing you fix up six Porter escapes, you must have six of these boards, and six escapes, in order to get the separating capacity which we have with one of our Jardine escapes.

Our escape is made round. The top and bottom pieces are thin wood securely fastened together with six wood screws. The top piece is about five inches across, with a $1\frac{1}{4}$ -inch hole in the center, which provides ample passage for the bees. The bottom is about four inches across. The partitions are made of tin, all pressed to a perfect shape, and very neatly nailed to the wood members of the device with very fine furniture brads. Each door is pressed to a perfect size, and hung to the top piece of wood by means of a little staple. Each door hangs just high enough from the bottom to allow a bee's head to go under.

When the bee is on the inside of the escape, and wishes to go out, it can easily raise the door, and pass through, after which the door at once closes, like a flood-gate in the river. The doors shut with flanges, passing on the outside of the partitions (or door-frame) in such a manner as not to allow any sticking the doors shut. The escape is put up in such a manner as to look very attractive, and, in fact, is attractive, or, at least, the idea, "time is worth money," is, and hence a machine that will save time will save money. The inventor, Mr. Jas. Jardine, of Ashland, Neb., is an old practical bee-keeper, and has used this escape for years, with gratifying results, which alone induced him to introduce it to the public. A year ago he sent out several escapes for trial to such persons as Dr. Mason, Hon. E. Whitcomb, Mrs. Heater, and others, and each escape brought back a very favorable testimonial letter after the season was over last fall. Of course, the cost will be a little more than the ordinary "single-file" escapes; but it will not cost nearly as much as the others in proportion to its capacity, besides the saving of so many escape-boards. All these things must be taken into consideration.

Germantown, Neb.

[Some time ago we received one of these escapes. They are very nicely made, and look as if they would work. We have had an engraving made, and present it to our readers. Perhaps I ought to state that the Porters claim that more than one exit for the escape of bees does not facilitate the emptying of the super, as one would naturally suppose. They tried escapes with one exit, and then with a number of exits; and after a long series of experiments they came to the conclusion that there was no gain by increasing the number of exits. On the contrary, something was lost by increasing the expense unnecessarily. These experiments were verified at the time by one or two others whose names I do not now recall.]

The principle of this escape is not entirely new. It is very much like the flood-gate prin-

ciple that has been devised by others—see page 430 of GLEANINGS for 1891.

I should like very much, however, to receive reports from those who have tested this escape in comparison with the Porter—especially whether it rids the super any quicker because of its extra number of exits.—ED.]

TARE ON HONEY-PACKAGES.

LACK OF UNIFORMITY THROUGHOUT THE COUNTRY.

By W. A. H. Gilstrap.

Honey tare in a given style of package should be uniform throughout the country. The following will show that it is not. Our common package for extracted honey, you know, is a case containing two five-gallon cans, either with partition between cans (double case or without partition (single case). We have suffered severely, without knowing how much we were losing.

Below I give you the amount of tare charged by a few of the leading firms.

Nos. 1 and 3 I have given from noting their business transactions. The rest were learned by letters addressed to the parties named.

No. 1, Porter Bros. & Co., San Francisco, Cal., with many agencies in this State and the East, deduct 17 lbs. on single case and cans; 19 lbs. if a double case is used.

Nos. 2 and 3, Russ, Sanders & Co., and A. Pallies, both of San Francisco, deduct 18 lbs. from single cases.

No. 4, R. K. & J. C. Frisbee, 172 West Maple St., Denver, Col., "Deduct 9 lbs. for each extracted-honey case. Deal only in single cases; 24-lb. comb-honey cases, we deduct 4 lbs. each."

No. 5, E. E. Blake & Co., 57 Chatham St., Boston, Mass., "Tare of cases and cans with or without center-board." Recommends double cases.

No. 6, Wm. A. Selser, No. 10 Vine St., Philadelphia, "16 lbs. tare for the case and two cans seems to be the rule."

No. 7, C. C. Clemons & Co., 423 Walnut St., Kansas City, Mo., usual tare for cans and case, 15 lbs. If cases are made of hard wood it is more.

No. 8, Henry Schacht, 116 Davis St., San Francisco, Cal., "3 lbs. tare on each tin, and besides actual tare for the case."

No. 9, R. A. Burnett & Co., South Water St., Chicago, "The amount of tare deducted is what the case and cans actually weigh. In cans we get from San Diego district there are often four grades of tare, running from 14 to 19½ lbs. per case and cans."

No. 10, Hildreth Bros. & Segelken, 28-30, West Broadway, New York, "We figure 5 lbs. for the two cans, which is actual, and whatever the case weight is added to it."

No. 11, Hamblin & Bearss, 514 Walnut St.,

Kansas City, Mo., "Strip five cases and put empty cans in them," and the weight of this is considered the average for the car.

No. 12, Batterson & Co., 167 Scott St., Buffalo, N. Y., handle extracted in "casks or 5-lb. cans, and buyer pays for extracted only; package free."

No. 13, S. T. Fish & Co., 189 South Water St., Chicago, "We always allow 2½ lbs. tare for the can. . . . We ascertain what the tare of the wooden cases is by weighing a few of them."

No. 14, Chas. F. Muth & Son, Cincinnati, O., "We take exact tare in every case, as near as it can be done. We pay for all the honey in the cans."

No. 15, Chas. McCulloch & Co., 393 Broadway, Albany, N. Y., "We know of no standard weight for the cases of either comb or extracted."

No. 16, Williams Bros., 80 Broadway, Cleveland, O., "For extracted honey we allow 2½ lbs. on each can;" actual weight on cases.

The replies below No. 4 are all agreed on actual tare for comb-honey cases, paying for honey and basswood sections containing same. Nos. 13 to 16 urge bee-keepers to weigh package and mark weight of same before filling with honey. Honest trade will not object to this plan; others should be let alone. I was robbed of over 900 lbs. of honey last year by excessive tare on what I sold for 15 tons.

Caruthers, Cal., May 1.

[There is too great a variety, as you say, in allowances made for tare. The only fair and correct way is to allow for actual tare whatever that is. In round numbers a square can weighs 2½ lbs.; and it is customary to estimate that a pair of cans weighs 5 lbs. In round numbers, a box for holding two square cans, without partition, weighs about 15 lbs., although some of the boxes from basswood run slightly under this, some going as low as 12 lbs.

When we receive a carload of honey in square cans we weigh the whole package, and then weigh the box separately. As the weight of the cans is nearly invariable we get at the weight of the honey. It is a little more work to weigh the boxes one at a time; but, as you see, it is the only fair way of getting at the tare. It should be stated that, when boxes are made of hard wood, and have an inside partition, they will weigh some more; but it seems to me that every commission firm, if it wishes to hold its trade, should get at the *actual tare* by weighing the boxes one by one, all of them. It is too much guesswork to estimate a certain amount for boxes; and, moreover, the temptation is pretty strong to put the estimate high enough so that the buyer will be on the safe side. I do not see how we can have exact uniformity; but what we do need most of all is actual tare. Let the bee-keepers and commission men buy and sell honey at its actual weight.—ED.]

If you would like to have any of your friends see a specimen copy of Gleanings, make known the request on a postal, with the address or addresses, and we will, with pleasure, send them.



NURSE-BEES.

Question.—If field-bees make poor nurses, how about a colony that comes out in the spring queenless and broodless? If given choice brood, will they be prepared to care for it to the best advantage and rear a queen that will prove satisfactory? Or do you regard it as a makeshift when nothing else can be done?

Answer.—There is quite a difference between old field-bees and bees which come out of winter quarters, as regards their making good nurse-bees. The vitality, and different parts or offices performed by the bee, become exhausted, or change in accord with the amount of labor performed, not in accord with the number of days which go by; hence a bee which has seen five months of winter, where a colony has wintered to the best advantage, may be no older in reality than the same bee would be at from ten to fifteen days were the date of the season June or July. All know that bees which have been wintered over become good nurse-bees, while nearly all admit that a bee which has been in the field as a worker for two weeks is almost wholly incapacitated for such work; and, if forced to nurse the larvæ, does it as a “makeshift,” as our correspondent puts it. I have found that a colony losing its queen soon after coming through the winter will rear a very fair queen, though I have never found them to be among the best; but in order to raise such a fair queen it seems necessary that the nurse-bees should be feeding some larval bees before they set about raising a queen. I have often taken a colony of queenless and broodless bees in the spring, and built them up in this way:

As soon as possible after spring opens, give them a frame of eggs and larvæ, and in eight or ten days open the hive and break off all queen-cells started, giving brood to them once a week if possible, till plenty of young bees hatch from the first brood given, when I give a frame of choice brood and allow them to raise a queen from the same. In this way I have succeeded in getting queens that would prove of value, and saved a colony which otherwise would have been lost. Had I allowed them to perfect a queen from the brood first given, she would have been a makeshift queen, and, in all probability, a drone-layer, as she would have been perfected long before there would have been any drones flying. I firmly hold this belief, coming from long experience along the queen-rearing line, that good queens can not be reared except where there are nurse-bees in the hive, feeding larvæ at the time they are required to rear queens. To force any bee, which is not in the habit of preparing chyme,

to immediately prepare chyme for a larva intended for a queen, is out of the ordinary course of nature, and the result can be only an apology for the better article, or a “makeshift,” as our questioner puts it. But here is a point I have never seen mentioned, viz., that, so far as my experience goes, the bees, when in the proper shape as to nurse bees, can rear a really good prolific queen from this makeshift queen, so that the colony will be a thriving one with a queen reared by supersedure from her brood. In fact, I have often found such queens to equal those reared from the very best of mothers, although I do not advise using such as mothers for a whole apiary. In this we see how a kind Providence has provided for the perpetuation of our pets even under the most adverse circumstances.

NON-INCREASE DESIRED.

Question.—Will you kindly answer in GLEANINGS this? I have ten colonies of bees which I run for comb honey in eight-frame L. hives. I have no extra hives for increase, and I do not wish to increase beyond the ten colonies. How shall I manage them so as to get the most honey in the sections, and yet never have more than the ten colonies?

Answer.—I very much doubt whether our questioner is on the right road to the best success from his bees, for there often come emergencies where it is almost a positive necessity to have a few extra hives on hand; for, to so manage bees that none of the ten original colonies shall ever cast a swarm, is something very few if any have attained to, when working for comb honey. Swarming is the result from a colony in its normal condition; and if we would have no swarms, the bees must be thwarted in their purpose by throwing the colony out of this normal condition. This is generally done by taking away the queen; for without a queen no swarms are likely to issue. This queen can be caged in one of the sections so that the bees can have access to her; and I would advise this instead of removing her entirely from the hive, where she is to be returned again; for the bees not only retain their relationship to her, but I think they will continue to work better in the sections when she is near them. Soon after the queen is removed from the brood-apartment, the bees will commence to construct queen-cells to supply her loss; and at the end of ten days the hive must be opened and all cells started broken off. If the queen is now left caged a week longer before liberating, the brood will be largely hatched out, and all desire for swarming given up, when she can be liberated with almost a certainty that she will be accepted all right, and no swarms issue from that hive until young bees are hatching plentifully again, if at all, that season. Or, if preferred, the queen can be destroyed, and all queen-cells destroyed at ten days, when a nearly mature

queen-cell can be given in a few days more, which cell is to give the future mother of the colony. Either of these plans will work, if properly attended to; but, as I said at the start, I doubt whether any thing of the kind is the royal road toward the production of the best results in comb honey.



Amalgamation or no amalgamation, it is really folly for us to divide up our money, time, and energies between two national organizations.—*The Bee-keepers' Review*.

Only 3 out of 24 respondents to A. B. J.'s question-box had a good word for keeping bees queenless during the honey harvest. The three were P. H. Elwood, J. A. Green, and E. France.—*Hasty in Review*.

Let me say to my good friend Merrill, of the *American Bee-keeper*, that it is not personal vanity that leads some of us bee-keeping editors to speak of the sickness in our families and of the food we are eating, but because we have suffered so severely, and, having found a way of escape, are anxious that others should know of the way.—*Editorial in May Review*.

Glad to see that the new-process foundation proves less liable to sag, in the trials so far, than the old kind. Even with pure wax, sagging has been a serious evil.

"Perfectly abominable." These are the words in which Ernest backs up Geo. F. Robbins as to the style in which some of us put our honey on the market. "Spects we need more of the same kind of talk.—*Hasty, in Review*.

Mr. A. I. Root is, and has been for a good many years, a good deal of a preacher, if we may judge from his sermonettes in GLEANINGS. If he practices all he preaches—that is, takes all his own medicine—he must be a very busy man, and ought to be pretty healthy spiritually. Between good potatoes and better sermons, the readers of GLEANINGS ought to be well-kept in both body and soul.—*American Bee Journal*.

Mr. J. B. Hall, of Woodstock, Ont., is known as Canada's comb-honey chief. In 1883 he exhibited 22,000 pounds of honey at the Toronto Fair, and 11,000 pounds of it was comb honey in sections. Mr. H. produced and sold in one year \$3000 worth of honey. Out of his honey crops he built a large two-story brick house, and banked enough money to carry him over all the poor honey seasons. Mr. Hall is very popular with all the bee-keepers, and, being such a successful specialist in bee-keeping, his opinions are always valued highly in bee-matters. After saying all this (which we learned through one of our good Canadian friends)—would you believe it?—this same J. B. Hall won't open his head except he's driven to it in a convention discussion! My! but he *can* talk! but on paper he's so very mum (for a Canadian), that it seems strange. He's a good man, though, and we liked him very much when we had the pleasure of meeting him at the Toronto convention last September.—*American Bee Journal*.

Lysol and its value in cases of foul brood appears to me in a different light after reading the article of F. L. Thompson on that subject. It seems that the feeding of lysol may cure foul brood; but if there is infected honey in the

hive, the use of that honey at some future time will again bring in the disease. In other words, foul brood can never be permanently eradicated from a colony so long as its old combs of honey are left in the hive. The use of lysol in a region of country where there are colonies of bees infected with foul brood may be a good thing—it certainly would be if its use would prevent the contraction of the dread disease, and Mr. Thompson seems sure that it will. For this purpose I can see that the use of some drug might be valuable. I suppose the philosophy of the matter is that, if all of the honey brought into the hive in times of scarcity, at times when bees will rob, is tinctured with lysol, any germs of disease that are brought in will come in contact with the lysol and thereby be killed.—*Editorial in May Review*.

WHY BEES SWARM; A GOOD ANSWER.

George F. Robbins, A. B. J., 225, jauntily says he knows why bees swarm; and he can tell us (e'enmost) how to prevent it. Let me see if I can't beat you at that, friend R. Bees swarm because there is a hole in their hive. Abolish the holes, and swarming is cured—I can warrant 'em. Perchance the Robbins remedy is not quite so illusory as mine; but it may fail sometimes, and mine will not. He takes away the contents of the hive, and leaves the hole—and the bees. The objections are that you have doubled your stock, and you may want to prevent that: you have a lot of hungry babies that must starve, as there are no nurses to feed them; and, you have a lot of sealed brood that may chill in a sudden cold spell of weather; and you may get the whole thing scooped by robbers. These combs can indeed be given to weak colonies, but only in a small way; and we want a scheme that covers the whole apiary. If he will take away the combs from several hives each day continuously, and put them into a big warm tenement hatchery, when the young bees are numerous ladle them a few quarts into each original hive—well, I think that's the direction from which morning is most likely to arise. Perhaps the man who works out the finished details of this may be canonized as a benefactor. I have never got around to begin the trial, although I have long had the scheme in mind. The outcome of such a hatchery is not increase of colonies, but a lot of nearly empty combs.—*Hasty in Review*.



INTRODUCING A QUEEN WHERE THERE ARE LAYING WORKERS.

I believe you and other bee-keepers claim that a queen can not be introduced where there is a laying worker. If you were here I could show you a case where we succeeded. The colony was queenless for a month or more after we first noticed it. We sent for a queen, and when we came to put her in we found quite a lot of eggs in drone-cells, which are now hatching. We put the queen in. She was in the cage for four days, and we let her out. She is now laying all right. A. BLUE.

Bladensburg, Ohio, May 15.

[You must have misunderstood us. It is true, it is somewhat risky, introducing a valuable

queen to a colony containing fertile or laying workers. One of the best ways of getting rid of such workers is to introduce a cheap fertile queen. If she is accepted, the trouble is overcome.

The A B C of Bee Culture has this to say: "If the fertile workers are discovered when they first make their appearance before you see any of the drone larvæ scattered about, they will often accept a queen-cell or fertile queen without difficulty." There is nothing implied in this that a fertile queen can not be introduced to such colonies.—Ed.]



THE department of "Personal Mention," in the *American Bee Journal*, is an interesting feature of that periodical.

T. G. Newman and family are now in San Diego, Cal., as I learn from the *American Bee Journal*. Mr. Newman was sick on the way there, but is better now.

THE prospects for a honey crop, and a big one too, all over the country, were never better than this year. Even Dr. Miller (see the *American Bee Journal*) says, "Without stretching the truth a bit, the past eight or nine months have been the most promising for bee-keeping in this part of the country in my 35 years of experience." Clovers are sticking their heads out everywhere, and our bees are getting a little honey every day, although it is hardly time yet to expect the regular flow.

ONE of our subscribers desires to know how to make a filter for clarifying sorghum molasses. Some years ago somebody told how to make such a filter, for clearing up dark honey. If I remember correctly he used a keg or barrel containing a few inches of bone charcoal. The honey was run through this into another receptacle. At the time, I believe our subscriber reported the honey was made considerably lighter in color. If any of our readers can give us information on this matter of clarifying syrups and honey by means of such a filter, we should like to hear from them. Send along drawings or a photo, so that we may have the apparatus illustrated.

THE NORTH AMERICAN AT LINCOLN.

THE following note, just received from the secretary, Dr. Mason, will explain itself:

Upon conferring with each other, and with the Nebraska bee-keepers, the executive committee of the N. A. B. K. A. has decided that the next meeting of the Association shall be held at Lincoln, Neb. The time will be fixed as soon as it is definitely known about railroad rates. A. B. MASON, Sec.

Toledo, O., May 25.

WE are at present testing furniture-nails as frame-spacers, in lieu of widened ends a la Hoffman. They work very nicely, and by some may have the preference. But, all things considered, I should prefer the Hoffman. I do not, however, find the same objection to the furniture-nails that Dr. Miller does; viz., the crowding in of propolis around the rounding of the heads. The propolis does accumulate there, it is true; but I can't see that it does any harm—that is, in any way interferes with the free working of the frames.

PEOPLE WHO WILL NOT ANSWER LETTERS WHEN YOU HAVE HANDED OVER THE HARD CASH TO GET THEM OUT OF TROUBLE.

QUITE a few have written us, saying, "By all means publish the names and addresses of all persons who refuse to refund when the shipper advances cash to the express or railroad company to get their goods through and thus save them loss and delay." All such persons will have fair warning before their names are held up to public view. Dr. Miller, in his Straws, in this issue, mentions a case that is peculiarly provoking. Look here, old friend, A. I. R. does not want 120 per cent, nor any per cent at all; but he hereby gives notice that, if said person does not write you and apologize, we will hold him up to public gaze. If he does not read GLEANINGS you can call his attention to this paragraph.

A. I. R.

THE SUGAR-HONEY QUESTION.

WHEN this subject came up in the *Bee-keepers' Review*, it will be remembered GLEANINGS entered a strong protest. While we did not for a moment doubt the honesty of purpose on the part of Mr. Hutchinson and of Mr. Hasty, we held that advocating the feeding of sugar syrup to produce sugar honey, even though for the avowed purpose of selling it for what it was, was ill-advised and unwise, because every one would not be conscientious in disposing of the product under its real name. Mr. Hutchinson, in deference to the opinions of other bee-journalists, and that of the majority of his own readers, dropped the subject. I have been a little sorry at times to see different ones bear down on him, now that the question has been dropped in the columns of the *Review* and the other bee-journals. In reference to one of these, Mr. Hutchinson, replying to Bro. Holtermann, of the *Canadian Bee Journal*, says:

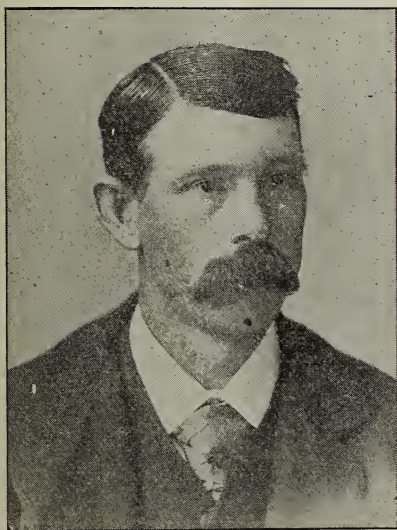
When the great majority of bee-keepers protested against the discussion of the subject, I deferred to their opinion, and promised that the advocacy of sugar-honey production should end in the *Review*, at least until there should be a change of public opinion on the subject. I have lived up to that promise. Even Bro. Holtermann has publicly commended me in his journal for the faithfulness with which I have kept my promise; and now to publicly condemn me for what may be my private opinion on the matter strikes me as unfair.

Discussion of this subject may have been foolish; and, if so, then those who joined in it must suffer for their folly; but don't get so far back into the Dark Ages as to expect us to recant, and say we don't believe what we do.

VERNON BURT, OR THE BEE-KEEPER WHO
"GETS THERE" EVERY YEAR.

For some time back I have been contemplating introducing to you those of my bee-keeping friends with whom I have had most to do in a personal way—that is, those who live in our own county, and with whom I "talk bees" whenever they come to town. The first one is Mr. Vernon Burt, a bee-keeper who owns in the neighborhood of 250 colonies, three or four miles distant, and who has the distinction (due either to good luck or good management or both) of securing a crop of honey every year.

Two or three years ago, when I scoured the country far and near, hunting up successful bee-keepers, you will remember our head clerk of the shipping department one day told me



VERNON BURT.

that I was overlooking a *very* successful bee-keeper right under our nose. Said he, "This man always gets a crop of honey; buys piles of bee-supplies, and always pays *cash* down, and seems to have a plenty left after paying for the goods." This man was Vernon Burt.

As I have before explained to our readers, it did not take me long to find out more about him. He is a man who says little; and as for writing for the bee-journals, I do not suppose he could be hired to do so for love or money, although he is just brimming full with that best of all requirements for successful bee-keeping—experience coupled with good common sense and business tact.

He lives on the farm with his folks; and although he is within a year of forty he has not yet taken unto himself a wife. I am sorry for him and for the nice girl that—that—well, ought to have him.

Mr. Burt is an advocate of large double-wall-ed hives; fixed frames after the style of the Hoffman; and winters solely outdoors, and always with success. He is not inclined to jump into new things hastily; but whenever a novelty has real merit he is sure to adopt it. He practices clipping wings, and believes that he can secure more honey by letting the bees have their own way in swarming once rather than by trying to forestall them. How he manages during swarming-time I have already explained.

Yesterday, May 26, I called at his home yard for the first time this season. I was much surprised at the increased number of colonies in that one location; indeed, I believe he has more bees in one yard than any other apiarist in the State. Originally the apiary was confined to the orchard; but now it has grown so large it runs away out into the open field. It is always neatly kept, and the grass and weeds are kept down. I believe I have before explained that his lawn-mower is a flock of sheep let loose at night. If there is any thing that will keep grass down close it is sheep.

Near the extracting-house was one of those large Boardman solar wax-extractors. This he regards as one of the almost indispensable adjuncts to a well-regulated apiary. Every bit of old comb, refuse wax of any sort, or cappings, are thrown into this machine and turned into a first quality of wax. A large part of such wax, he thinks, might otherwise be wasted but for the *convenience* of this machine, which is always ready, working for nothing and boarding itself.

After we had looked through the yard, we each, as is our custom, seated ourselves on a couple of large chaff hives, under one of those large apple-trees.

"Well," said I, "what are the prospects this year? I see white clover out around us, and Dr. Miller is unusually hopeful. How is it with you?"

"Been too dry with us," said he. "White clover appears in little patches here and there, but only in little patches. What little honey my bees are now getting is from red clover."

"Well, are your prospects any better this year than last?"

"Just about the same; but," he continued, "I never saw more basswood buds than this year. I am expecting a good crop of honey from that source."

"But do you think those buds are going to 'give down'?" said I.

"I never knew them to fail when they looked as they do now."

"How is your out-yard coming on?"

"Doing nicely."

With this I mounted my bicycle, with the promise that I would call again at the first opportunity.

OUR HOMES.

Honor thy father and thy mother, that thy days may be long upon the land which the Lord thy God giveth thee.

Remember the sabbath day, to keep it holy.—Ex. 20: 12, 8.

I suppose every reader of GLEANINGS could give me, without hesitation, the full name of both his father and mother; but if I should also ask for his mother's full name before she was married, I am afraid some of you would hesitate and think a little before answering; then if I should ask for the full names of your grandfathers and grandmothers there would be still more perplexity; and I find there are quite a few children nowadays who can not tell me very much about their grandfather and their grandmother; and when we come to call for facts in regard to the *great*-grandfathers and *great*-grandmothers, the average American boy or girl is obliged to admit that very little is known about them. If we attempt to go back still further, most of us, even members of large families, are obliged to admit at once that we know very little in regard to our ancestors, especially on the mother's side. The fashion of naming boys after their father makes it, of course, a little easier to follow along in the line of people of the same name; but from the fact that a girl has her father's name until she is married, and no longer, soon obliterates nearly all chance of tracing the genealogy on the mother's side. But there comes a time in the life of almost every person when he begins to be curious as to the stock of humanity from which he descended. Now, do not call this idle and unprofitable questioning. We should all, to a certain extent, have family pride. But young people rarely think much about that until they get to be, say, of an age when they may be parents themselves. Then there is usually much inquiry. The inquiring mind of a child frequently turns in this direction; and since the age of photography almost every household contains the pictures of the whole family, away back to the time when the daguerreotype was first invented. For instance, I have my father's and mother's pictures, taken when they were between thirty and forty years of age; and there is somewhere lying around, may be up in some old garret, a picture of your humble servant, made by the daguerreotype process when he was just about fifteen years old. I am, however, afraid that nobody could tell exactly how old he was then, nor at what date the picture was taken. If, as I surmise, he was about fifteen, it was taken in 1855, or about then. I remember the children coming from school, greatly excited, saying that Mr. So and So had a machine that you could look into and see yourself, as in a looking-glass; and that, by a beautiful new discovery, he made the picture *stay* in the looking-glass after you had gone away, and that the picture could be kept for your relations to look at. I believe the school-children were invited in to see the process. A piece of silver-plated copper was buffed and polished until it was really a silver looking-glass, and you could see yourself in this little square silvered copper plate; and, wonder of wonders! after his different manipulations with the various chemicals, the picture actually *did* stay. Then the artist put it into a little book-like case lined with velvet; and, oh dear me! wasn't it a treasure to be carried about and exhibited! Of course, the good-looking girls soon had their pictures taken; and some boys who were not so good-looking nor as well-mannered as they might have been got possession of these

pictures, and showed them around on the sly, when they had no business with them at all. What a lively business the picture business was at that time! and how the photographers did take in the dollars! The whole thing has now, however, notwithstanding the wonderful modern improvements, become so commonplace that a good many artists complain that they can not "make a living." Well, the picture business did a great deal toward helping us all to keep in mind our ancestors, and to remember the different ones who, perhaps, were called away early in life.

By the way, almost all my life I have been curious to know when they commenced calling a boy after his father. When did people start out calling every boy Smith, Brown, or Jones, just because that was his father's surname? You need not tell me that people *always* did that way, for in that case we should all be Adams—not only in disposition but in name. You have all heard about the astronomer who said that there ought to be a planet in the solar system further than any then known, and that, for certain reasons, it ought to be in such a place; and when the telescope was directed to that point, the planet Neptune was discovered. At the time I went through Mammoth Cave, and saw the bats and the bat guano I said, "Look here, friends, an expert antiquarian ought to be able to tell us from the accumulation of bat guano pretty nearly how many years bats have been roosting up overhead as they do now." Well, I am not an antiquarian, and I do not know much about this business of ancestry; but I have sort o' concluded all to myself that people have been named after their fathers as they are now—well, let's say less than a thousand years. The New Testament indicates pretty nearly that their fashion was a different one from what we have now; but when it was that a boy was given a name not hitched on to his father's name at all I can not tell. If any reader of GLEANINGS can suggest to me some book or encyclopedia where this thing is explained I should be very much obliged. One more thought along this line:

With the present state of affairs my impression is we shall have to cease, before very long, calling boys after their father. For instance, *Root* is not a very common name. I now remember when there were very few Roots anywhere except near relations; but now the Roots are becoming quite common here in Medina. I have a brother in Tempe, Ariz., whose initials are J. H. R.; and until recently our agent over here at the station wrote his name J. H. Root. He writes it so still, for that matter, but he is not living in Medina now. If any of you have two or more people in the same town whose given name and surname are exactly alike, trouble comes; but when the middle initial is also exactly the same, there is no end of confusion if both parties are at the same postoffice. And this reminds me that we have just lost almost \$100 worth of comb honey. It was shipped to H. Meyer, St. Louis, Mo. Well, now, Henry Meyer, commission merchant, St. Louis, Mo., is a straight man—reliable and responsible; but his namesake rented a little room, put in a table and chair, paid \$2.50 rent in advance, and then had honey, and nobody knows what else, sent in to him, taking advantage of the good man's reputation; and now Mr. H. Meyer, of 210 Olive St., can not be found.

Perhaps I had better explain a little more in regard to the above transaction. An inquiry came to us in regard to comb honey. The letter was signed "H. Meyer, 210 Olive St., St. Louis, Mo." On reference to Dun's and Bradstreet's Commercial Reports, one of the clerks found

there were four H. Meyers in St. Louis; and as the letter-head right before us was printed "H. Meyer, Commission Merchant," the clerk looking the matter up took it for granted that this letter was from one of the four who were in the commission business. He was accordingly given very close figures on what he wanted, and the honey was shipped, to be paid for in ten days. As he did not respond in ten days, investigations were made, with the result given above. A letter from the chief of police of St. Louis tells us the man is an out-and-out swindler.

I wish to take a little space right here for something that to most of you will be only a personal matter. There are some of our readers, however, who are more or less connected with the Roots, and have several times asked me what I knew about them.

THE ROOT FAMILY AND ANCESTORS.

Briefly: The first records we have been able to hunt up are found in Maresfield, Sussex Co., England, and they go back as far as 1576. At that time the name was spelled Rootes. In the year 1635, at Salem, Mass., records are found of three or more brothers by the name of Roote. In 1640 John Roote came over from Badby, England, a little village in Northamptonshire, and located in Farmington, Ct. The Pilgrims came over in 1620—twenty years before, as you will notice. But John Roote and wife were of Puritan stock, and were members of a Congregational church in Badby, England. They had eight children. John, the oldest, was born in 1642, and he was also father of eight children. Caleb, one of those eight, had a family of five children. One of the five was named Samuel, and he was the father of a family of seven. Enos, one of these latter seven, had a family of nine. The names of these nine were, Moses, Samuel, Elizabeth, Levia, Chauncey, Elias, Enos Prindle, Benjamin, and Martha Delia. The second child, Samuel, was my grandfather, and he lived in Waterbury, Ct., where my father, Samuel H. Root, was born in 1810. My grandfather was the father of nine children: Martha Julia, Philomela, Hannah Emmeline, Samuel Homer (my father), Eliza Rebecca, Sally Maria, Benjamin Edison, Mary, and Albert. Of this family of nine, all are now gone except the first, Julia, and she is now 92 years old. All the husbands and wives of these children are gone except my mother, who is now 84 years old, and is living here in Medina. In 1870 it was estimated that there were 100,000 Roots and their descendants, all coming from the stock given above. How many hundred thousand (if the fashion for large families still continues) ought there to be by this time—1896? Those who want further information may find it in the book called "The Root Genealogy," published by R. C. Root, Anthony & Co., 62 Liberty St., New York. This book was published in 1870, and contains 533 pages.

From the "Root Genealogy" I make a few extracts as follows in regard to the prevailing traits of the Roots: First, they are, as a rule, a devotional people. We find a large number of deacons, etc., all along down the line, and some ministers of the gospel. They have been called Puritans of the strictest sect; but for all that they are patriotic, many of them losing their lives in the Revolutionary War and in the late rebellion. As a rule they are a good-sized people, many of them quite athletic; but the greater part of them do not bear shutting up indoors for a very long period. They are an agricultural people; and even if they get away from the farm and garden, and get into business in the cities, sooner or later they gravitate naturally back to the farm, or out among the fruit. Now,

I have not space to make my list of good qualities much longer; but I find in the book a sentence, and a part of it in italics, that made me smile broadly. It is this: "The whole line have been characterized for shrewdness, and noted especially for a strong *anti-humbugativeness*." Many of them are remarkable as mathematicians and musicians.

Well, about a year ago the matter was talked over of having a reunion of the Roots and Rootlets at Silver Lake, Summit Co., O. Let me explain that, for many years past (it seems to me I have heard it stated as twenty or more), Mr. R. H. Looze has managed a picnic ground year after year so much to the satisfaction of the public generally, especially that part of the public who love righteousness and hate iniquity, that it seems to be a favorite rendezvous for all good people. The whole ground is fenced off, and no one can get in without paying a small admittance-fee—say five cents for every person, but nothing for teams that bring the visitors. By this means friend Lodge keeps out roughs and objectionable people. Nobody gets inside of the inclosure without passing the eye of the gate-keeper. Now, right over said gate is a large bulletin-board or sign; and in great black letters the fact is proclaimed to everybody that, under no circumstances, are these grounds *opened on Sunday*. In fact, at every point of ingress and egress this fact is made known, so that no one need go there and be disappointed because he did not know the regulations.

This establishment has been successfully managed, as I have told you, for twenty years or more, while various picnic-grounds, open week days and Sundays, have started up and gone down into bankruptcy and oblivion again and again as the years have passed. Let me just briefly relate the history of one of these.

The Glen, at Cuyahoga Falls, was established where the river makes a cut a hundred feet or more through the rocks, and forms one of the most beautiful pieces of natural scenery to be found in Ohio or any other State. A few years ago a man secured possession of this property, fitted up the natural caverns, springs, rural bridges, etc., until it was one of the finest things to be found anywhere, and crowds of people flocked to it. While it was at its height of popularity I asked the question of a relative who lives near there, "Has this man backbone and sense enough to resist the tremendous pressure that will be brought to bear on him to open this place on Sunday, and then, as a natural sequence, bring in intoxicating liquors?"

My cousin replied:

"They are already bringing their forces to bear on him to have it open on Sunday; but I guess he is all solid, for he is a very earnest Methodist, and a good man."

Time passed, and I heard the Glen was getting to be a terribly bad place. During one of my wheel-rides over that way I asked my cousin again in regard to it. He replied something like this:

"Why, Amos, they have persuaded this man, somehow or other, that his beautiful grounds should be open on Sunday to let people who have not time during the week have a little chance for recreation, rest, outdoor air, etc. The place was finally made a Sunday resort. Then the same arguments were brought to bear to induce him to sell liquor to people who would be very careful not to abuse (?) the use of it; and—"

He looked at me with a smile as much as to say that I might guess the outcome. I replied:

"So this poor man lost his religion, lost his money, lost his temperance principles, and is

perhaps now wrecked, spiritually and financially, and every other way."

He replied that I had got it about right.

Now, friends, there are pleasure-resorts all about us. They are near your home as well as near mine. A good many of us have our Sunday-school picnics at such places. There is a beautiful lake about five miles south of Medina; and our Sunday-school, for many years, has held its annual picnic at this place; but I believe the general decision of late is that the children hear more bad talk during the day of the Sunday-school picnic than perhaps during all the rest of the year, as a consequence of being thrown more or less in contact with the roughs, gamblers, and swindlers who congregate around that lake; and one good brother said he feared the children learned more iniquity on that one day in the year than all the teachers and officers of the Sunday-school could weed out during all the rest of the days of the year.

When the electric cars first made Silver Lake a point, something over a year ago, I am told that the managers of the electric line alone offered a thousand dollars to friend Lodge if he would lay aside his "puritanical notions" and open up his place on Sunday. I do not know what he said, but I am told it amounted to this: "Get thee behind me, Satan." "What shall it profit a man if he gain the whole world and lose his own soul?" and friend Lodge stands to day—that is, if I am correctly informed—as firm as a rock, unlike the man at the Glen I have spoken of; and he verifies the promise of scripture, "Whatsoever he doeth shall prosper."

I wish I could tell you all about Silver Lake grounds. The bottom of the little piece of water is clear sand; in fact, it makes me think of the Florida lakes; and the water is pure and soft. Friend Lodge has an ice-house of his own, and stores up the most beautiful ice every winter. Then he has in summer time a big windmill to pump soft spring water into the reservoir that sends it all over the ground. At various points are buried coils of pipe; and on these coils a great lump of ice is placed every morning; so wherever you open a hydrant to draw water to drink, if it is not ice-cold it is as cold as you ought to drink, and the supply is unlimited. Of course, it is the most beautiful bathing-ground that can be imagined, and the prices for bathing-suits are very reasonable. A little steamer constantly makes its trip around the lake, and Sunday-school children can spend the whole long day on these grounds, and not hear an oath nor any objectionable talk. The institution is managed by friend Lodge and his children. He keeps some bees and takes GLEANINGS, and makes a garden; and on that beautiful sandy soil he raises the most luscious melons and other fruits and vegetables for his guests that are numbered every year by the thousands. Some people think it is strange for a man's prosperity to hinge on such a very simple matter as remembering the sabbath day to keep it holy.

Well, my accustomed space is pretty nearly all used up; but I wish to say to you that the Roots and Rootlets had just the pleasantest sort of time at our picnic and reunion on the 8th of last August, and at least some of them are thinking about when we shall hold the next one. As we wanted to be all by ourselves friend Lodge very kindly and graciously gave us his front dooryard, furnishing us chairs, tables, gasoline-stoves to heat the water, and every thing else, and all this without a cent of charge except the five cents apiece for going inside of the grounds. Everybody pays this

nickel; then the whole family of Lodges turn in and make it just as pleasant for the crowd of "lodgers" as can well be imagined.

As memory goes back to that beautiful summer day when we held our picnic, I think of many things. The dear brother who asked God's blessing before we sat down to our repast* (Deacon Sackett, of Tallmadge) has been called to his home above; but the stories and reminiscences in regard to grandfather Root, who brought his family of girls, with an ox team, from away down in Connecticut, when he settled and made his home in Tallmadge, Summit Co., O., was well worth listening to, I assure you. Aunt Julia told us how the family of girls made the wild woods trip with songs and merriment on that long trip through the woods that took them nearly a month. Every Saturday night they camped, and rested until Monday morning, *remembering the sabbath day to keep it holy* as well as they could under the circumstances; and when they reached the State of Ohio (that new land away off in the far west, you know), the families who kept the sabbath made better progress, came through in better health and spirits—domestic animals and all—yes, a great deal better—than those who were so eager to get through that they pushed ahead on Sunday just the same as any other day.

Now, dear readers, some of you may think it strange that such a little thing as the way a man regards the sabbath may make a difference, not only in his financial affairs, but spiritual, physical, and every other way. Look about you and see if it is not true that the really good men and women of this world of ours are in favor of keeping God's day holy.

AN "AMERICAN" TRAMP.

Last Sunday morning, while we were at breakfast, somebody rapped at the back door. Of course, it was a tramp. They have stopped troubling us week days because they know they will have to work before they can get any thing to eat. But for some time lately they have been coming around on Sunday morning, and they always promise to work it out next day, which they never do. This fellow was dressed well from his head to his boots. He made a very humble request for something to eat. I told him to come around Monday morning and I would give him work.

"But," said he, "how am I to subsist to-day?"

"Look here, my friend; your suit of clothes, from boots to hat, is good enough for you to go to church. Now go right across to that hotel yonder, and leave that good coat of yours as

*I remember with painful distinctness that my part of said "repast" was pure hot water and chopped beefsteak. May the Lord be praised, however, that, at the present time, I can eat what I please, like other folks. Let me explain, however, that what I "please" is quite different from what pleased me a year ago. Now my choice for daily food is mostly lean meat and zwieback. I do not quite understand it, but now I do not want coffee at all. It used to be one of my greatest privations to have my coffee cut off. A teaspoonful of malted milk in a cup of hot water is more refreshing and delicious to me than all the coffee in the world. Once more, strange to tell, I do not care very much for fruits. It is now strawberry time, and I have not eaten a pint altogether this year. What few I do eat I prefer cooked. Now, it is an exceedingly pleasant thing to me to feel that my natural craving is for the things that digest easily, and not for something that will do me harm. I eat a little fruit almost every day for breakfast and dinner, but none for supper, and I am not only well but thankful. Let me say once more, may God be praised for health, and a healthy appetite for wholesome food.

security for what you need to-day. It is warm weather, and you will be very comfortable without it; then come to me to-morrow morning and I will give you work enough to pay your bill and get back your coat."

You ought to have seen the sudden change from mock humility to defiant scorn and contempt. Said he:

"I would not work for you for ten dollars a day."

I replied, "Why, don't do it then; certainly not, if you feel that way about it."

At this stage of proceedings the still small voice whispered to me, as if often does, "Least said, soonest mended;" and as my temper was rising too, I turned to go away and leave him. But he was not to be shut down in that way. He called after me:

"Go and hire your Chinamen and niggers. I am too much of an *American* to be bossed around by such as you."

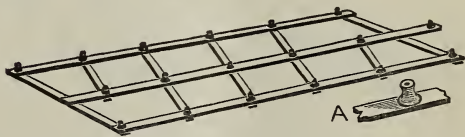
I still made no reply, but that seemed to anger him still more. He turned and followed me, and I did not know but he was coming clear into the dining room. Shaking his fist, he said:

"It is none of your *business* where I got my clothes;" and with a string of imprecations he started off toward the barn. Mrs. Root suggested that perhaps it would be better to feed them rather than to make them angry and cause them to burn our buildings, destroy our property, etc. But I protest. If we as a people and as a nation continue to submit to this thing, and feed men who loudly *boast* that they do not have to work, and *won't* work, and feed them because we are *afraid* to do otherwise, we shall very soon receive our just punishment for rewarding and even offering a premium for such behavior. If this is not *anarchy*, then I do not know what *anarchy* is. "Too much of an *American*," forsooth! His speech betrayed his foreign origin. What sort of idea do these people have of America, anyway? "Too much of an American" to earn his daily bread by the sweat of his face! By the way, this man unconsciously paid a compliment to the Chinese and colored people. I never saw or heard of a Chinese tramp; and I do not remember now that I ever saw a full-blooded *African* who was a tramp. I need not tell you what nation or nations they are that are pouring this sort of humanity on to our shores to intimidate our hard-working women, our railroad companies, our police, and a certain class of sickly sentimental people who think everybody ought to be fed, even if they refuse to do a stroke of work for their daily bread.

By the way, what does it mean to be an American? A neighbor of mine suggested that it meant a class of people whose children could not be *hired* to work on a farm. They would ride bicycles, and go to college, and work at some things, but not at farming. I assured him that, in that case, there was a good time coming for the farmers; for when everybody else deserts the farm, there will be excellent prices for farm products for those who stay by it and "hold the fort."

bred potato, or whether it was the extra energy and enthusiasm I gave to the matter because of the value of the potatoes. To look back over the work it seems to be one of the simplest things in the world to raise large crops right in the winter time. For a good many years back we have not succeeded in getting potatoes much earlier by starting the plants under glass where they were planted right outdoors. One great reason for failure, however, has been that we put them outdoors too soon, and did not give them sufficient covering when the frost came. I notice that quite a few agricultural papers have also suggested that there is not much gained by having potato-plants to set out instead of planting whole potatoes. We intended to use quite a little cloth for protection; but as it turned out, our cloth sheets were never used at all except when we used them to spread over the glass—glass sashes alone not being sufficient. The season has certainly been very peculiar.

During the fore part of April the potatoes were considerably injured by frost going through the glass and freezing the potato-tops, especially where they were against the glass. A cloth sheet spread over the sashes at such a time was a very great help. Well, within one week after these severe freezes the weather turned around, and we have not had a frost since, sufficient to require covering the potatoes with cloth, sash, or any thing else. My impression is, that hot-beds or cold-frames are much better for potatoes than a greenhouse. When the weather is so that the plants will bear it, they seem to do much better by having the glass stripped right off entirely. We cut the potatoes to one eye, and plant them exactly one foot apart. The marking-out is done with the same machine we use for marking for planting strawberries under glass. See cut below.



SPACING-TOOL FOR PLANTING POTATOES UNDER GLASS.

Of course, the ground in the plant-beds is made very rich with plenty of old well-rotted stable manure. Then it is put through a sieve, to make it fine, soft, and loose. The potatoes have plenty of water whether it rains or not; and it is just fun to see them "get up and climb" with such treatment. I do not know how the sub-irrigation is going to answer for potatoes. We have not tried it. My impression is, you would have to be careful about too much moisture. Potatoes will not stand wet feet nor steady soggy wet. They need lots of water when they are growing with a rank growth; but it must not be standing water. Mrs. Root suggested that my largest bed, where the potato-tops stood three feet high, with stalks as thick as your thumb, would be all vines and no potatoes. I told her that was not the fashion with the new *Thoroughbred*. And, oh my! you ought to see the beautiful potatoes that are making the ground crack and burst open down near where the stalk started out from the one-eye cutting. The *Thoroughbred* is adapted to being cut to one eye, without question. Where they stand out in the field by the acre the stand is perfectly regular and even, although some of the pieces near the blossom end of the potato were cut exceedingly small to get one eye on a piece. As friends Swinson and Parker intimate, however, the bugs go for them tremendously. I do not think, however, that it is any thing par-



EARLY POTATOES UNDER GLASS.

We have this year made a splendid success of the matter. I do not know whether to ascribe it to the peculiar adaptability of the *Thorough-*

ticularly against the potato that bugs are so fond of them. The bugs will pick out the Hubbard squash every time, in preference to a pumpkin, summer squash, or any thing inferior to the genuine Hubbards.

PACKING OR COMPACTING THE SOIL IN THE
POTATO-FIELD.

Terry says on page 13 of the A B C of Potato Culture, in regard to fitting the ground, "I wish I could harrow it with a balloon so horses need not tramp it." He says again, on page 15, in speaking of the soil, "It *must not* be packed as wheat likes to have it." Now, I have been more and more coming to the same conclusion myself. I want the ground just as soft and mellow as it can be before the potatoes are planted, and then I want just as little tramping over it as possible after planting. I presume my boys think me notional because I tell them to go *around* the potato-fields instead of tramping through them; and especially do I wish to avoid *useless* tramping. A boy who is wanting some excuse to run here and there all through the fields and garden I do not want on the premises at all.

A good deal has been said about cultivating potatoes often; but I have sometimes thought that the tramping of a heavy horse between the rows did almost as much harm as the cultivating did good, especially when it is the least bit damp. And here is where the Breed's weeder comes in. The horse does not need to go in every row; and neither does the man who follows it. The great point is to choose your time just after a rain, when the lumps on the surface will easily pulverize and mash up, and then put off all your other work and get the Breed's weeder through all your stuff as soon as possible.

A few days ago they said they had their work all done, and were just about loading the weeder on the wagon to put it back into the barn. I stopped them, and told them to try it among some peas that were a foot high. The man declared that it would tear them all to pieces, and pull them out by the roots. We started in; and although it did not pull them up it tumbled them about so much, and knocked them down flat at such a rate, that I stopped when half way through the field, telling him we would wait a couple of days and see how much damage it did. This morning the peas that were torn up so bad look just as well as the others. I did not find a dead or dying vine in the patch, and the ground was all beautifully pulverized all in through and between the stalks. Our new ten-cent potato-book emphasizes this point particularly, of growing the tubers in *soft, fine, rich soil*.

MAY 25, 1896.

Along the fore part of April we thought the season was going to be more backward than usual; and this illustrates how little anybody can tell about the weather, even two weeks ahead. The month of May has been more forward than any other May I now remember. We had our first ripe strawberries about a week ago; and to-day, May 25, we are almost in the height of the season. We received 20 cts. a quart for them till last Saturday, when they came down to 16, and we are selling this morning at 16. Other strawberries, mind you, were selling at 14 and 16, while at the same time we were getting 20; but ours were placed before our customers only an hour or two after they were picked. We give heaping pint baskets for a dime. Most people preferred these to the more or less mashed-up berries that had been kept a day or two, besides being shipped long distances. Our berries ripened here in Medina so

soon after those in Marietta, a little further south, that we had only one shipment this season. One might think selling so many berries grown under glass would have a tendency to bring prices down; but it was quite the contrary. After having quite a trade in berries grown under glass, at 10 cts. a pint, we kept right on for several days selling those from the fields at the same price.

We made our first picking of Alaska peas to-day, May 25, and it involves a little lesson. During the latter part of March I was uneasy because no peas had been planted; but it was freezing so hard nights that it did not hardly seem worth while. Another thing, the ground was too wet—even that so thoroughly underdrained. We finally found a piece on the edge of a steep bank that was dry enough to plow, and the peas were put in, even though it was almost too wet to take a horse on to it. I felt at the time that perhaps I should have got along faster had I waited until the ground was dryer. Well, we got the piece in, and now for the result:

After that it remained rainy so that it was at least two weeks before we could find a bit of ground anywhere that could be plowed. As soon as we could we got in some more peas. Those put in in March are the ones we are picking to-day, and there is a very fine crop of them—much better than those put in two weeks later. These will bring 10 cts. a quart readily because nobody else has a pea anywhere near maturity. Why, ours were up and in full bloom before the greater part of the gardeners around here had any planted.

Now, by making special provision in the fall I might have gotten in a very much larger patch—say half an acre, and sold peas two weeks before anybody else had a pea fit for picking. The difference between 5 cts. a quart and 10 cts. a quart will pay well for ridging the ground up in the fall so that the top of the ridge will be dry enough to get your peas in along in March, or in many seasons even in February. And, by the way, the severe freezing nights and thawing days during the fore part of April did not hurt these peas a particle. They just did nicely; and they were so early that they were so much ahead of the weeds they covered the ground almost before a weed had started. By fixing a piece of ground in the fall, expressly for early peas in the spring, I think it is a comparatively easy matter to have plenty of them during the first of strawberry-picking. Those who raise crops, and have them mature just at the time when everybody else piles their stuff into market, will have to sell at a very low price; but the one who is a week or ten days ahead can set his own figures. I tell you, it is pleasant to have a nice crop of something of this kind when there is no competition whatever.

Mrs. Root suggests that it is wicked to *make* people pay 40 cts. a quart for strawberries, and other things at like prices. The same thing has been suggested to me by others; but look here a minute. It is the wealthiest people in our town who pay these high prices. Mr. S. told me that a great part of our strawberries grown under glass were taken by one family in our town. They took them every morning, often taking all we picked. When I told Mrs. Root who the purchasers were she said, "Oh! yes, that is all right; *they* can well afford it." Well, now, these people who are well-to-do are really paying our small boys for growing plants under glass, for handling sashes when the weather changes, etc. The small boys—or many of them—have widowed mothers. Both the boys and their mothers are greatly pleased

to have me give them work, and teach them to "make plants grow." Now, which is better—for these well-to-do people to pay enough so the boys can be kept at work learning high-pressure gardening, or give the money outright to the poor widows? Why, everybody says at once, "By all means, give the children work by purchasing the stuff they produce." Almost every winter, the organization of King's Daughters is obliged to give poor families assistance; and quite a few times they have come to me asking if I could not furnish employment to some member of said family, and thus relieve them from the burden of "carrying" such a family through the winter. I need not tell you how much better the effect is on society generally, to set people at work instead of giving money outright. Very likely there are a few people who are in debt, and who pay 20 cts. a pint for strawberries when they are rare and high-priced; but this is the exception and by no means the rule.

CHINESE GARDEN-SEEDS.

One of the small boys in my Sunday-school class—that is, he was a small boy some fifteen or twenty years ago, when I first commenced Sunday-school work (some of the readers of GLEANINGS will perhaps remember about it)—well, this small boy, when he grew up, went to China as a missionary—or, at least, he holds an important government office connected with the missionary work. Of course, we have kept up more or less correspondence. He wanted some of our garden-seeds, and, as a consequence, astonished the Chinese and everybody else by the new vegetables, melons, etc. Well, he has just come back on a visit, and by way of returning the compliment he has brought me a great lot of Chinese seeds. In fact, there are so many of them I have concluded to give them away to the readers of GLEANINGS.

In the first place, there is a kind of lettuce, and I find written on the envelope *Hsengtsai*. Then there is a cucumber called *Shoo kwa*. Then there is a summer squash for pies, called *Wo kuo*; still another pie squash called *Hui hu lu*. This last grows up six inches or a foot high, then it must be laid down and covered with earth. The Chinamen have sent us a rude drawing, telling us how to manage. Last, but not least, there is a red muskmelon—red outside, red inside, with red seeds. Now, anybody who wants them can have a few seeds for trial by sending us 5 cts. to pay for wrapping and postage. There is quite a lot of the cabbage and red muskmelon, but there is not very much of the other things; but you shall have them as long as they last. Now, you need not ask me any more questions about them, for this is all I know about them, until we have tested them on our own grounds.

THE NEW CRAIG; HOW IT BEHAVES IN FLORIDA.

Mr. Root:—A few days ago I mailed you 1 lb. of Maule's Thoroughbred potato, as requested when you sent me some seed potatoes. Owing to the severe drouth we have had, and are still having, the potato crop, and many others, have been a failure. Those I sent you were the largest I got from the pound of seed you sent me. I have perhaps 3 or 4 lbs. of quite small ones left. The Sir William did about the same, or perhaps a little better. The Craig was quite a surprise in the way of maintaining a good color right through the drouth, while Maule's, Sir William, the Blue Victor, and what is known here as the Early Red (all planted at the same time, in the same patch and with the same fertilizer) turned yellow, and died prematurely. The Craigs are still a very fair color;

but as we have had comparatively no rain for eight or nine weeks, if we even should get one now soon, I fear it will be too late.

Orlando, Fla., May 21.

B. B. ELSE.

The above verifies our own experience and that of almost every one who has ever made a report on the Craig. It is the best potato to maintain its vigor and untiring thrifty energy right through a severe drouth of any thing in the whole line of potatoes. We have tried it on our creek bottom, on uplands, and on poor ground; and it seems to be proof against blight, bugs, and drouth, and almost every thing else. At present we have some growing in the greenhouse in a locality where they have not had a drop of water for many weeks; and the great strong thrifty stalks and foliage look as if the potato did not even know it had been misused at all. Let me explain that I sent friend E. a pound of Thoroughbreds in order to have them tested in Florida, asking him to return me as many before planting-time up here. Those he sends are veritable Thoroughbreds, but are of small size. They evidently can not stand the drouth as well as the New Craigs. They are, however, of better quality, and very much earlier. The New Craig is also the best potato to keep in the spring, without sprouting, of any thing we know of. At this date, May 25, New Craigs that stood right close to the windows in our cellars, where they got light and warm air more than any other, have no sprouts longer than, say, $\frac{1}{4}$ inch; and the great smooth potatoes are comparatively solid and firm.

Horlick's Malted Milk For Invalids.

It is pure rich milk and an extract of malted grain combined and evaporated to dryness. It makes one of the most pleasant, invigorating, and nutritious foods imaginable.

Endorsed by physicians everywhere for invalids, aged people, and for those suffering from nervous prostration, dyspepsia, or digestive troubles of any kind—in fact, wherever a highly nutritious and at the same time easily digested food is required.

It makes an excellent table drink in place of tea, coffee, or cocoa, being far more healthful and nutritious.

Prepared by simply dissolving in hot or cold water, or it may be eaten dry.

Correspondence solicited, and samples free.

Horlick's Food Co., Racine, Wis.

Please mention this paper.

WANTED.—To exchange or sell a twenty-inch pony planer.
THE GEO. RALL MFG. CO., Galesville, Wis.

Special Notices in the Line of Gardening, etc.

By A. I. Root.

Spurgeon, the great preacher, said, "Economy is half the battle of life." Those who study the book "Domestic Economy" are pretty well equipped for the "battle of life." Price \$1.00; but we send it postpaid from this office for 50 cts.

We are to-day, May 29, selling new cabbage, summer squashes, cauliflower, American Pearl onions ($2\frac{1}{2}$ inches in diameter), green peas, strawberries, etc., and are getting good prices for every one of them. The limbs of the basswood-trees are just bending with their loads of buds. When it comes to blossoms, if the blossoms should be full of honey I do not know but some of the limbs will break down with their burdens. Surely this spring, at least, our land promises to be a land flowing with milk and honey.

THE EARLY PEABODY RED YAM.

By a slip of the tongue, or perhaps of the pencil, in our last issue, page 403, I called these *yellow* Peabody instead of *red*. T. B. Parker says it is the earliest sweet potato; and for quality—at least, judging from the samples he sent me to try—I should say it is second to none. See our latest prices for plants. Per 100, 25 cts.; if wanted by mail, 25 cts. more for postage; but we think it very much better to have all vegetable-plants sent by express, so the tops can be out and have the air.

SEED POTATOES GIVEN AWAY.

At the present date, May 27, we have given away to our subscribers more than 500 bushels of potatoes, and there are a little more than 500 yet to be given away. Until further notice we will present a full barrel of 11 pecks to everybody who sends us \$1.00 for GLEANINGS, no matter whether you pay up what you are owing, or pay for the future, or whether you pay for somebody else to whom you wish to send it. A whole barrel of potatoes thrown in with every dollar we receive for the journal, of the following varieties:

We have remaining of the State of Maine, 50 bushels; Beauty of Hebron, 20; Snowflake, 6; Lee's Favorite, 6; Monroe Seedling, 74; Freeman, 140; the new Craig seconds, 45. The above are all \$1.00 a barrel, and you can put it this way if you choose: Everybody who pays us \$1.00 for a barrel of the above seed potatoes can have GLEANINGS for one year, and it will be sent anywhere you direct.

Now, besides the above kinds, we have of first-quality Craigs, *carefully selected*, 150 bushels. The price of these is \$2.00 a barrel; and we will send half a barrel to everybody who pays \$1.00 for GLEANINGS; or if you buy a whole barrel we will send GLEANINGS to you for two years.

We have also still remaining small lots of the following high-priced varieties: White Bliss Triumph, second crop, 1½ bushels; price \$2.50 per bushel. Burpee's Extra Early, 2 bushels; price \$1.00 per bushel. Everett's Six Weeks, ½ bushel; \$1.00 per bushel. Since we have sold out of Manum's Enormous, there have been so many calls and so much disappointment that I finally ordered another barrel, which we expect every day. Therefore you can have these also at \$2.00 a bushel. You can have the four above kinds, \$1.00 worth, at the prices given, for every dollar you send us for GLEANINGS. Of course, at this season of the year many of the potatoes, with the exception of the new Craig, are more or less sprouted; but in most localities a very good crop can be secured by planting at any time in the month of June; and of late we have learned how to get very good crops of early potatoes planted from the first to the middle of July—that is, average seasons. All that are not taken will be planted, probably, by the first of July, after turning under our strawberries after fruiting. We are entirely out of seconds, except Lee's Favorite and the new Craig, already mentioned. The Lee's Favorite seconds we will sell at 50 cts. a barrel, or two barrels to every one who sends \$1.00 for GLEANINGS. There are left about 18 bushels of Lee's Favorite seconds.

In regard to the above potatoes for table use, the Freeman is in excellent condition, and stands at the head so far as quality is concerned. I carried over to Mrs. Root a bushel of Snowflakes, thinking

that they might be better than the Freeman; but after trying them two or three times she asked me to have them carried back to the cellar and bring her a bushel of the Freeman. The Monroe Seedlings are also in excellent order for table use, as they were grown, as you may remember, from potatoes planted last year the day after the Fourth of July.

Last, but not least, we will send by mail postpaid 1 lb. of Maule's Early Thoroughbred potatoes (new crop) to every one who sends \$1.00 for a *new subscriber*. Special prices for larger quantities on application. The new crop is partly dug, and we are succeeding nicely in getting them to sprout so as to be planted again out in the fields. These can be planted any time this month, or even in July.

The subscriber must pay transportation charges on potatoes; and if by mail (except the Thoroughbreds), be sure to include money to pay the postage.

Better name several kinds in making order, as we may be sold out of the one you select.



EXTRACTED HONEY.

We have a good supply of choice extracted honey, which we desire to close out, and should like to hear from those interested.

CREAM SECTIONS.

We still have a good supply of cream sections of the following width: 44-in. sq.; 1½ open top and bottom; also open four sides; 1¾, open top and bottom; 1¾, open four sides; also a good supply of 1½-in., No. 1 white, open two and four sides, all of which are offered at \$2.00 per 1000; 5000 for \$8.00; 10,000, \$15.00.

BUSINESS AT THIS DATE.

We are having all we can do to keep orders filled with reasonable promptness. The season is favorable, and prospects bright in many localities, and trade is good with our branches and dealers as well as here. We have loaded the fourth car for this season to Denver, Col., for Barteldes & Co.; also the second car to Walter S. Pouder, Indianapolis, Ind.; the third car for Jos. Nysewander, Des Moines, Iowa, and the third car to St. Paul, Minn., and are loading the third car for Chicago as we go to press.

KIND WORDS FROM OUR CUSTOMERS.

OUR SEEDS.

We planted them the same day they arrived, and it was no time until they were up, and now they look nice. S. L. MEDLIN.

Pace, Tenn., April 29.

The hives I ordered of you came to-day, the 27th, and I will say I am very much pleased. I wonder how you can do so much first-class work for so little money. Surely I will speak a good word for you.

N. Weare, N. H., Apr. 27. JOHN A. WOODBURY.

The American Board of Commissioners for Foreign Missions acknowledges the receipt of forty-one dollars from GLEANINGS IN BEE CULTURE, by the A. I. Root Co., Medina, O., for Armenian relief.

Boston, Mass., May 21.

FRANK H. WIGGIN,
Assistant Treasurer.

The barrel of New Queen potatoes you sent me in rebate on the barrel of Craig seedlings came through all right and in fine condition, just right to plant. Thanks, also, for the Little Giant spray-pump. I have tried it, and am well pleased with it. It will do the work nicely, and it is so handy. I can work with it where I can't very well get the barrel-pump. Danvers, Ill., April 30. J. W. LANE.

NICEST LOT OF HIVES AND FRAMES.

The missing package of hives arrived o.k. I must say that they are the nicest lot of hives and frames